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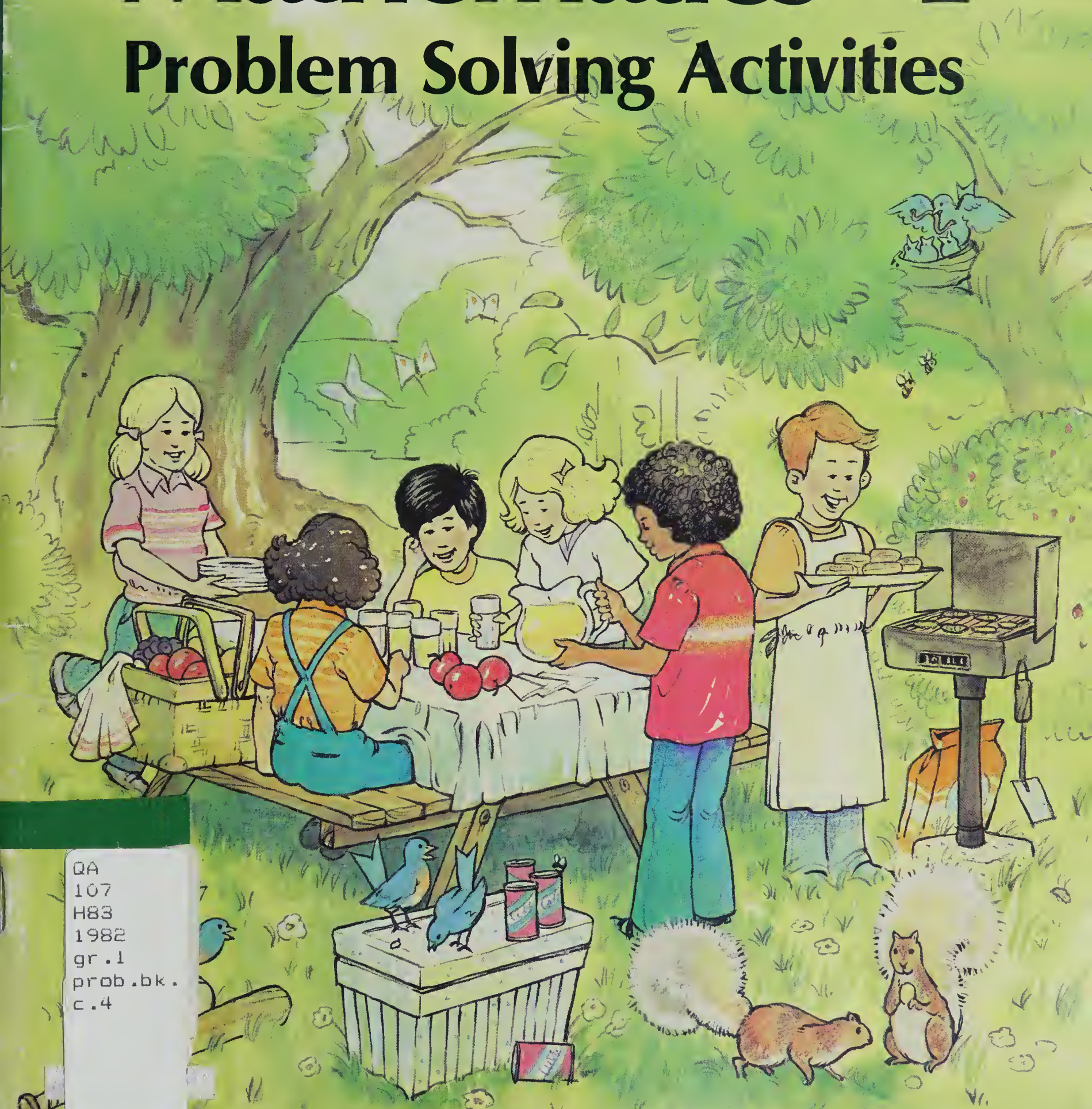
Problem Solving Activities



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Houghton Mifflin Mathematics 1

Problem Solving Activities

Heather Kelleher
NEW WESTMINSTER SCHOOL DISTRICT
NEW WESTMINSTER, B.C.

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PROBLEM SOLVING NOTES

The activities in this workbook are designed to offer children opportunities to enrich their problem solving experiences. Each unit of activities focuses upon a particular type of problem or upon thinking through problems in particular ways.

Visualizing what is happening in the stated problem is very important, and is enhanced through use of pictures. After several practice exercises with book-provided pictures, the children are given the opportunity to follow directions and draw their own pictures to represent what is happening in the problem situation. This process helps the child to become actively involved in the problem formulation stage of problem solving. The transition from pictures to words to symbols is made slowly and carefully, reteaching and practising throughout the workbooks.

Verbalization of what is happening in a word problem is also very important. Children should be encouraged to do this often, since it enhances the development of good language development and helps the child sort through the information, talking about or paraphrasing what is taking place in the problem situation. Ideas for discussions, along with other teaching suggestions, are included in the Teacher Notes at the bottom of the first page of each lesson.

Each of the units has two lessons. Each lesson has Teacher Notes containing teaching suggestions and extension activities. The skills practised in each unit correspond by skill level to the classroom text. There are twelve content units and two review units. The units may be studied in any order as long as children have worked up to and through the corresponding unit in the text. This organization ensures that the children have studied the necessary computational skills for each workbook unit. Answers to all problems are available in the back of the book.

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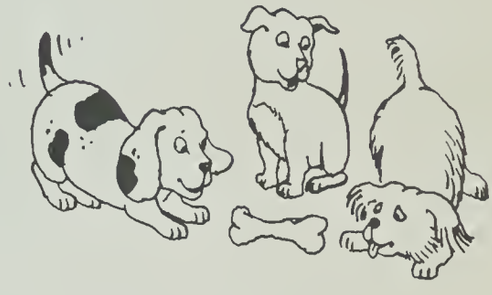
UNIT 1
Classification

NAME _____

Show where they belong. Match.



TEACHER NOTES: Discuss ways of sorting things by asking children what specific things they see when they look at these pictures. Let children suggest the attributes for sorting and then tell the children to draw the lines to show where each picture belongs. Page 4 involves less obvious classifications, emphasizing subgroup/group relationships (An apple is a type of fruit). Discuss answers. Accept any reasonable responses.

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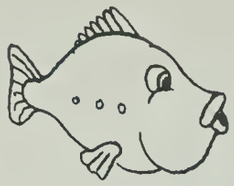
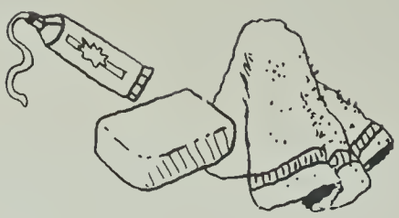
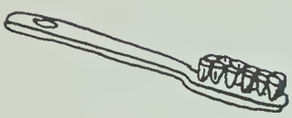
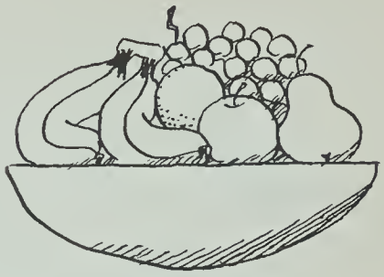
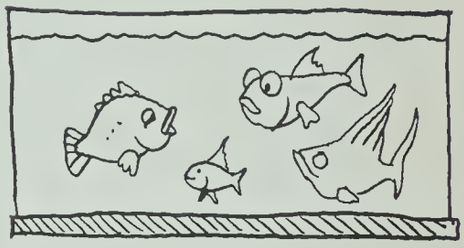
Show where they belong. Match.

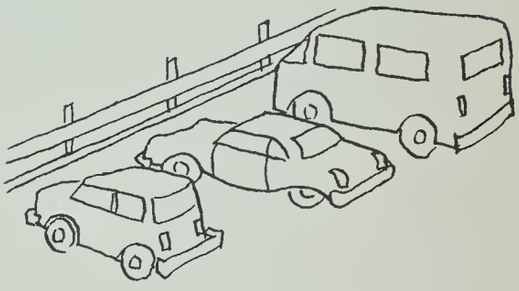


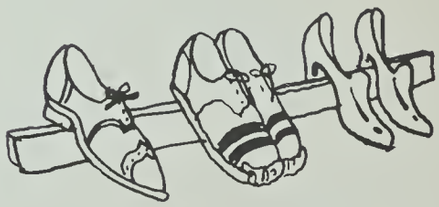


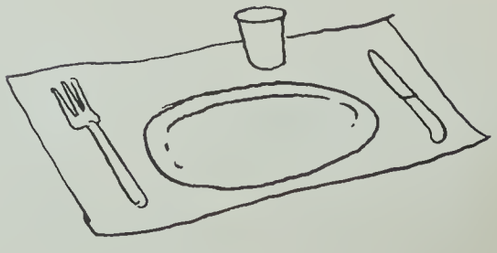












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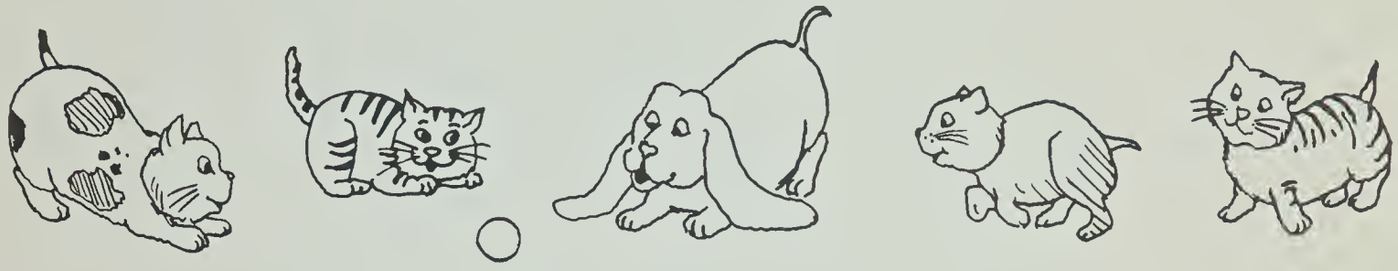
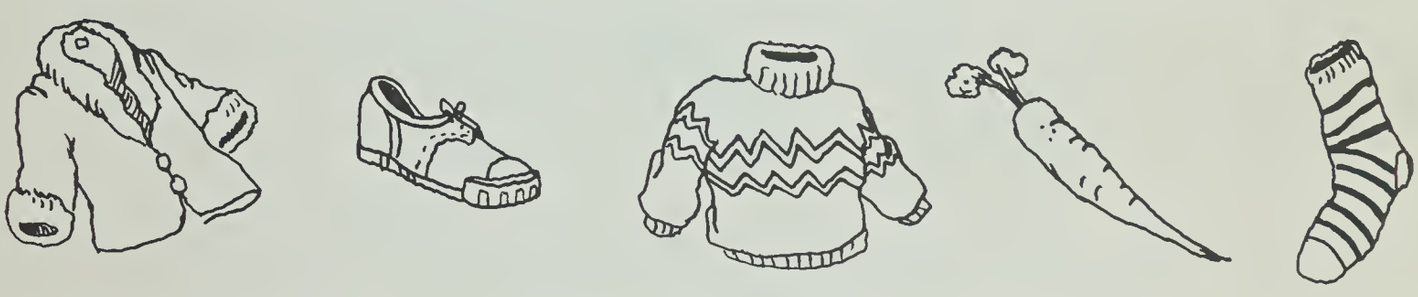
NAME _____

✓ the one that does not belong.





TEACHER NOTES: Discuss the attributes for belonging as suggested by the children. Then let the children tell you why one item in the picture does not belong. Discuss "belong" and "not belong" by look similarities and by function similarities.

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✓ the one that does not belong.

TEACHER NOTES: Discuss classifications such as vehicles, tools, food, toys, people, and so on. Have students provide examples for each. Discuss why objects belong and don't belong. Provide objects and pictures for sorting according to various attributes.

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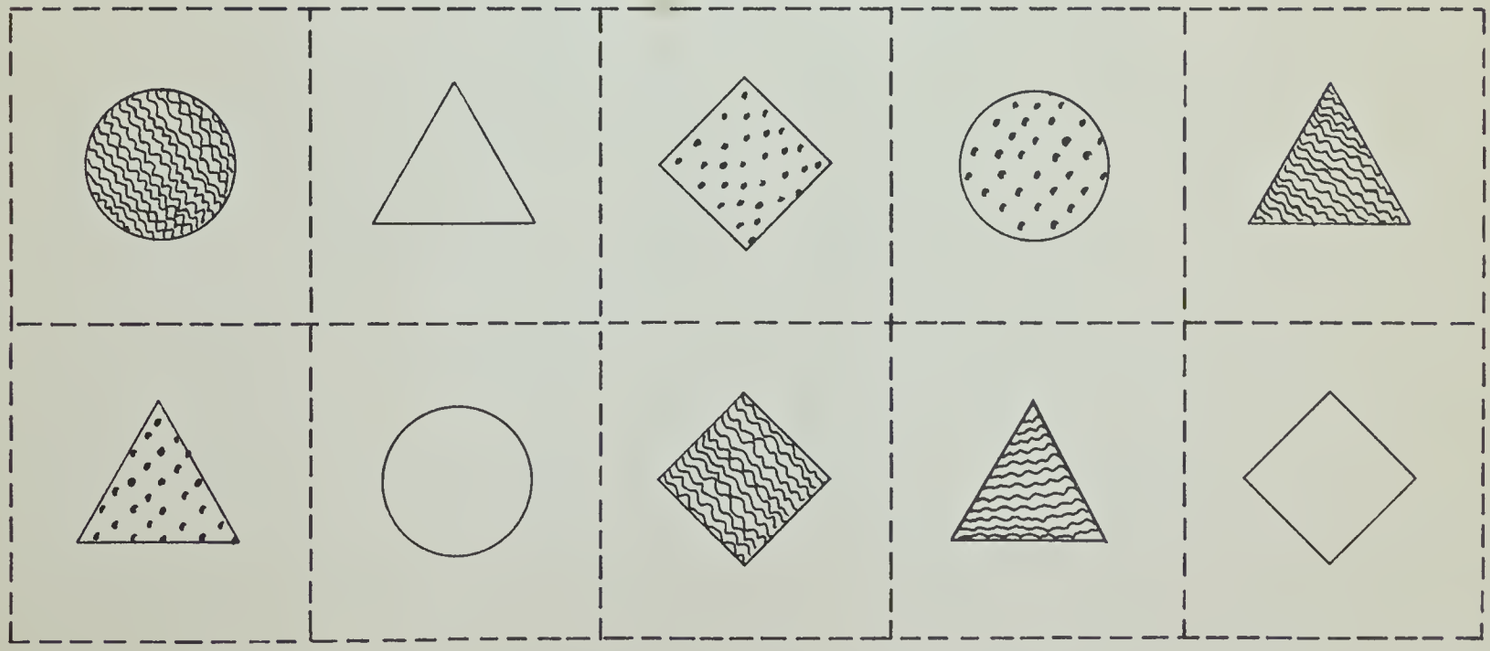
UNIT 2

NAME _____

Classification by Colour or Shape

Cut and paste.



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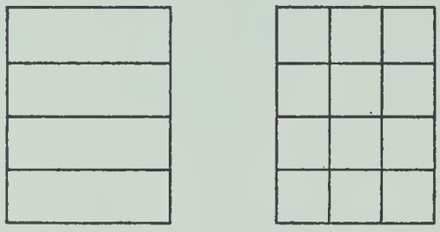
TEACHER NOTES: PAGE 7

This page involves cutting out the shapes at the bottom of page 7, sorting them on the sorting board on the basis of shape or colour, and then pasting them in place for a permanent record of the grouping.

This activity should follow hands-on experience with sorting blocks such as Attribute Blocks. Provide group and individual sorting and classifying opportunities where students sort, and then describe the basis of their groupings.

If you do not have access to blocks for sorting, make a set out of stiff card. Make 3 or 4 shapes (○, □, ◇, △) in 2 sizes (△, ▵) in each of 3 or 4 colours (red, blue, green, yellow). Provide sorting labels

and sorting boards such as:



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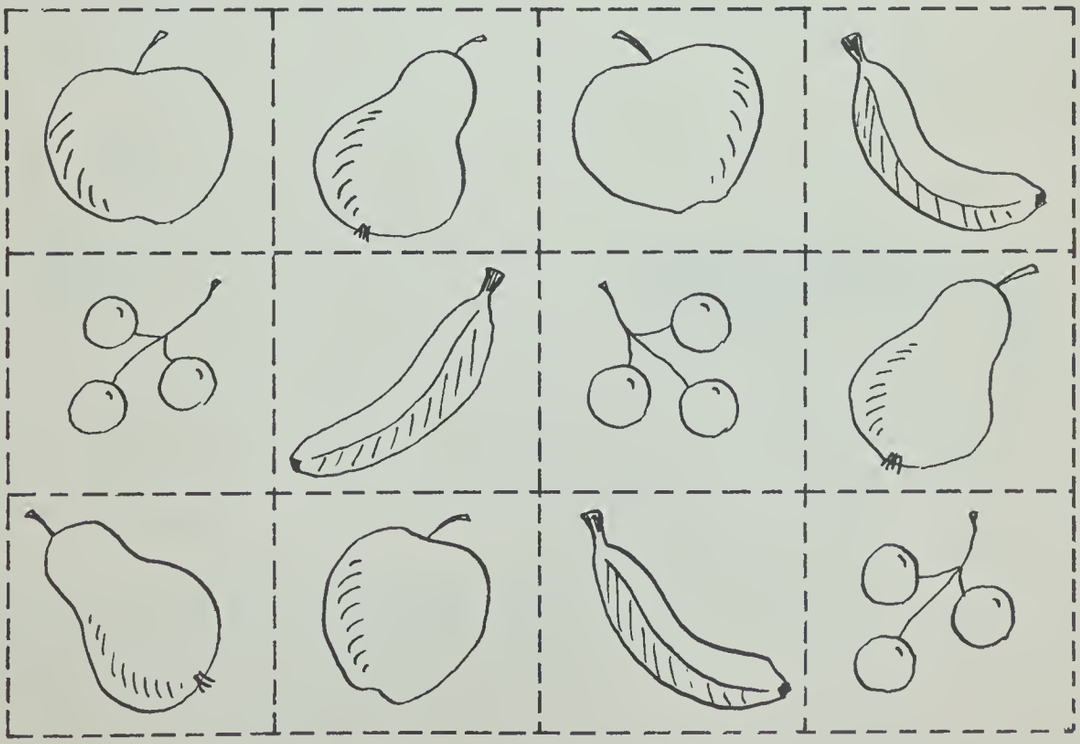
NAME _____

Colour and group the objects.

Colour, cut, and paste.



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TEACHER NOTES: PAGE 9

Students should choose 4 crayons to colour the fruit. After colouring, students can cut out the fruit squares and sort them on the basis of colour or shape. The fruit squares can then be pasted in place for a permanent record of the sorting.

See the Teacher Notes for Grade 1, Unit 2, (pages 21D to 21F) for further sorting and comparing activities.

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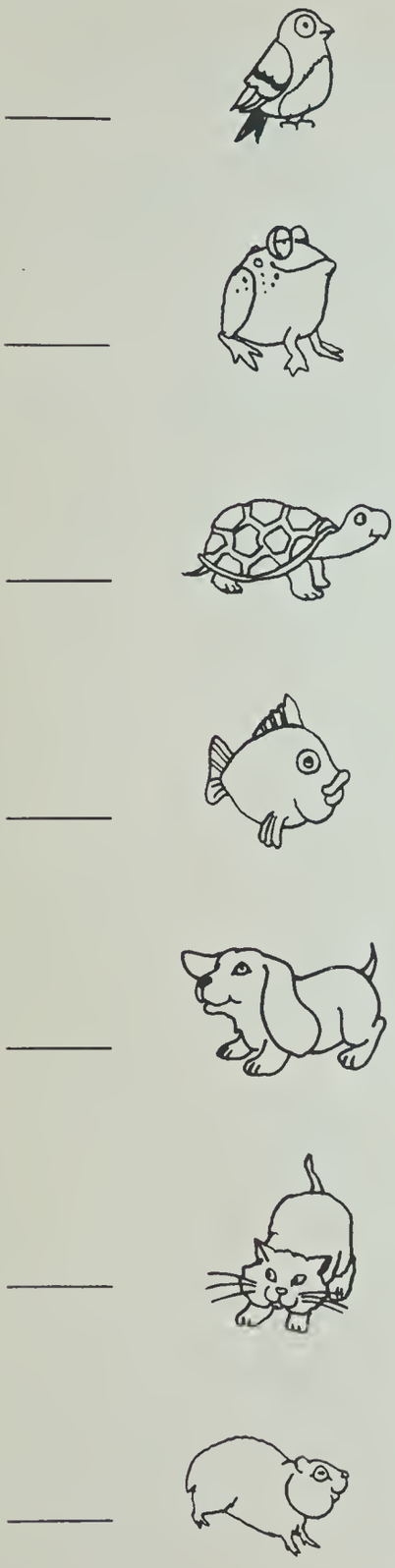
UNIT 3

NAME _____

Information From a Picture

Write the number.



TEACHER NOTES: Students are to locate, count, and record information from an organized picture arrangement. On the following page, students must classify first, then count and record, from a random arrangement.

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Write the number.

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NAME

Colour a box for each object.

TEACHER NOTES: Students are to decide which objects to count, then colour a box for each object counted. Discuss the process by doing several examples as a group.

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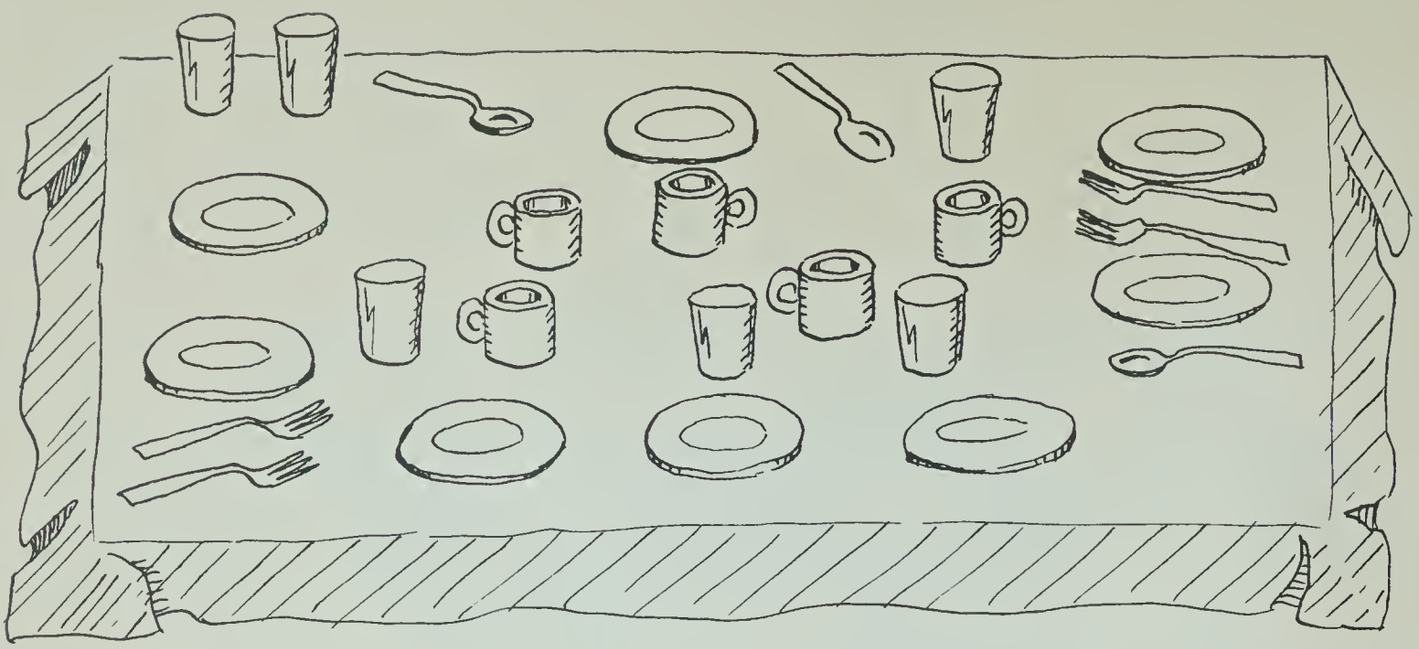

Draw the objects. Colour. Count.

	____ in all
	____ in all
	____ in all
	____ in all
	____ in all

TEACHER NOTES: Students organize and record the information according to the classifications.

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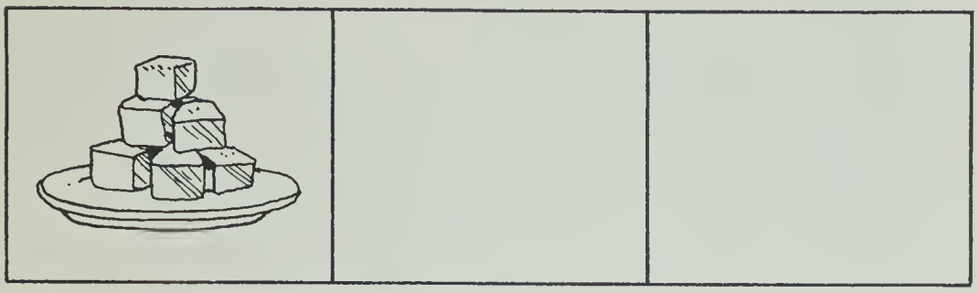
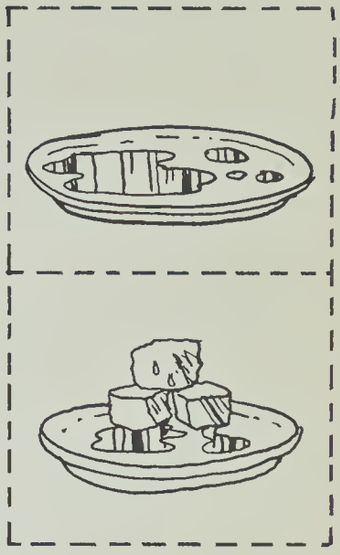
UNIT 4

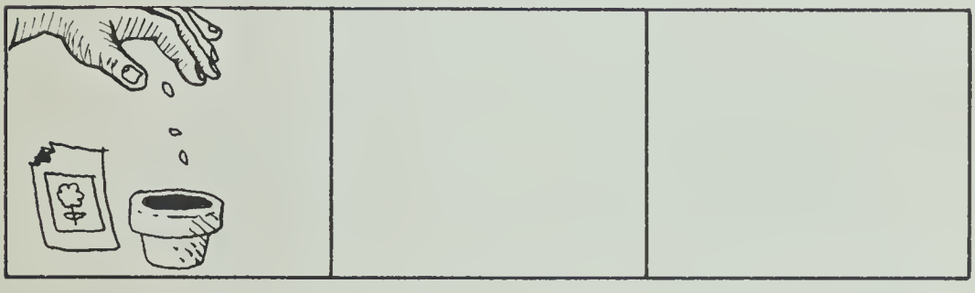
NAME _____

Picture Problem Sequence

Cut and paste the pictures in order.







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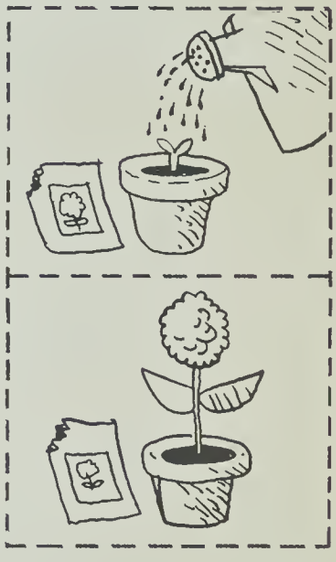
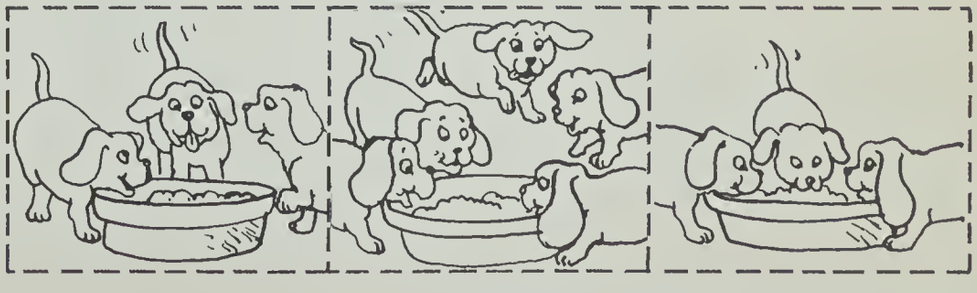
Cut.





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TEACHER NOTES: PAGE 15

Part of the process of solving problems is the development of a sense of sequence of events. Word problems typically have two or more statements about a situation and the situation has an inherent time sequence.

This lesson provides picture examples to manipulate and sequence in order to show a logical story order. Encourage children to discuss the sequence of events before pasting the pictures in place.

As an independent activity, students can make their own sequence puzzles. Have them draw on cards, examples such as:

An apple
One bite missing
Several bites missing
An apple core

Get up.
Get dressed.
Go to school.
Sit down in classroom.

A candle
A candle burning
A candle burnt down a way
A candle burnt out

Get a balloon.
Blow it up.
Play with it.
Pop it.

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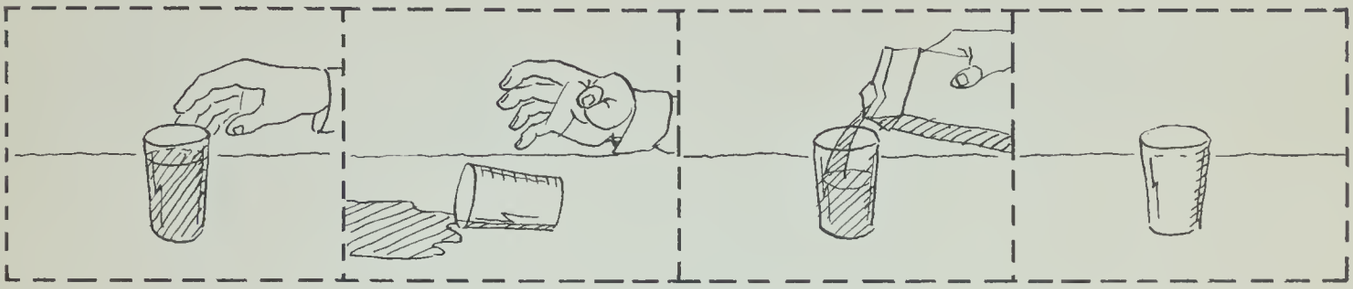
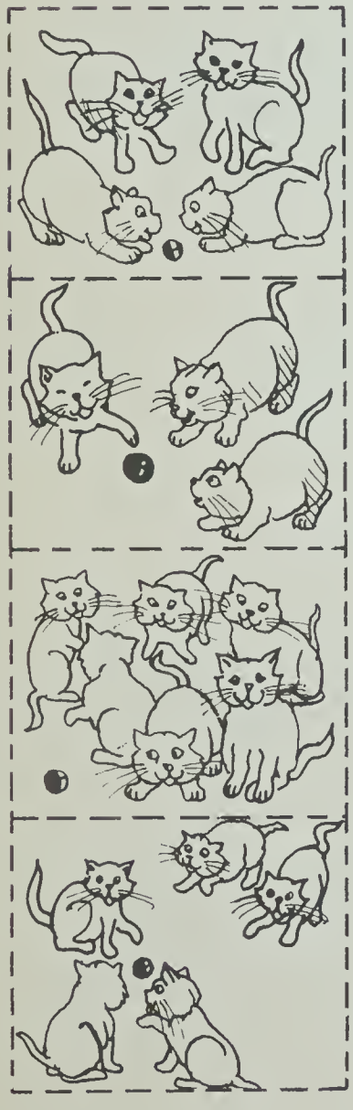
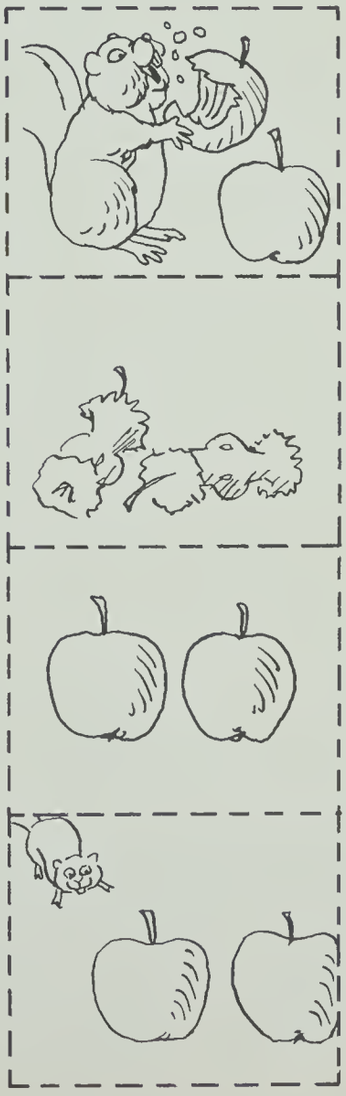
NAME _____

Cut out each set of pictures.
Put the set in order. Paste in place.
Tell a story to match the pictures.







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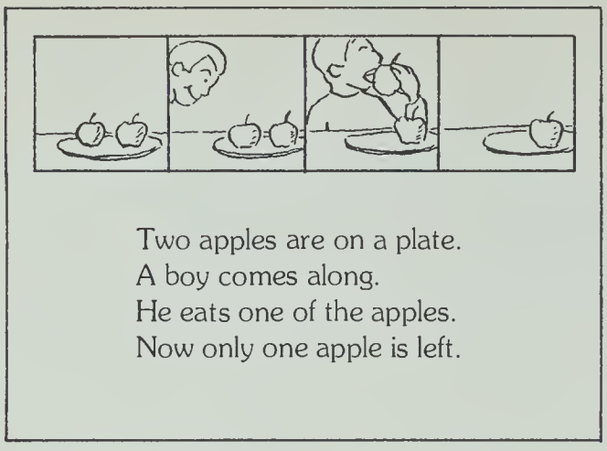
TEACHER NOTES: PAGE 17

In these sequence examples, numbers can be used as indicators of the sequence.

Children will need a separate piece of paper to use as a backing for the pasted sequences.

Separate papers or cards can be used for each example. Students can then dictate a story to match the examples.



Two apples are on a plate.
A boy comes along.
He eats one of the apples.
Now only one apple is left.

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UNIT 5

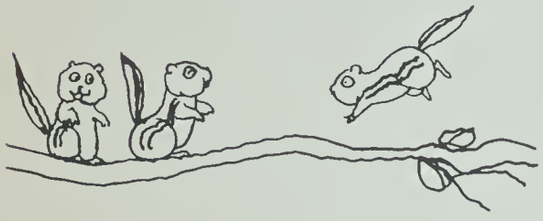
NAME _____

Matching Pictures to Problems

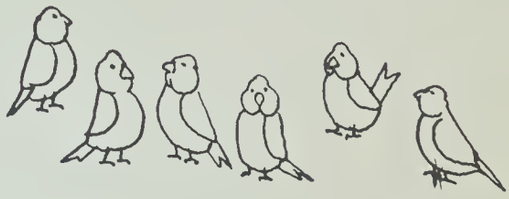
Match.

3 + 2

_____



2 + 1



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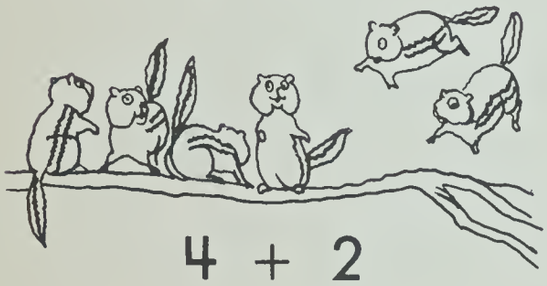
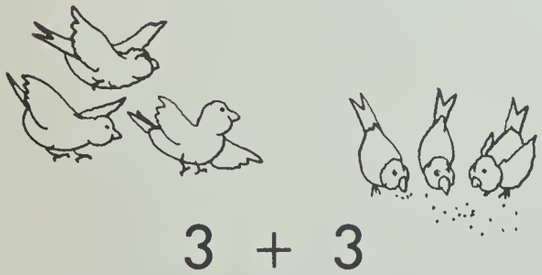


4 + 2

_____

1 + 3

_____



3 + 3

_____

TEACHER NOTES: This page provides an abbreviated version of the picture sequence and an association of the pictures with symbolic representation. The children are to match the two parts of the problem in order to associate the joining action with the addition operation and match the operation to a sum. Page 20 involves non-action (part/whole) addition situations. Students complete the picture to match the addition name, then match the parts and the whole.

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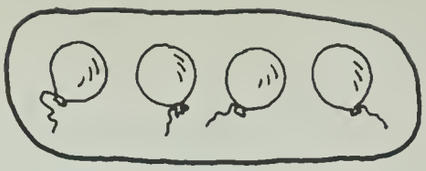
Finish the pictures. Match.

4 + 2



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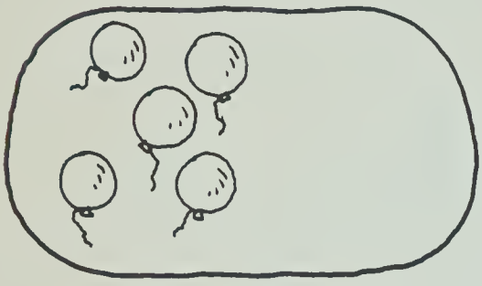
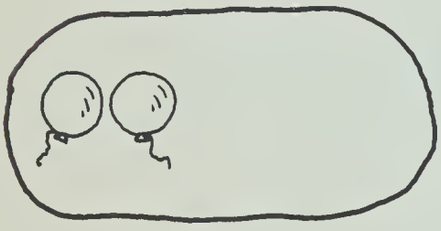


5 + 1

____

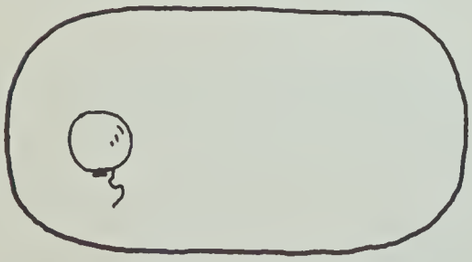


2 + 1

____

1 + 3

____



1 + 4

____

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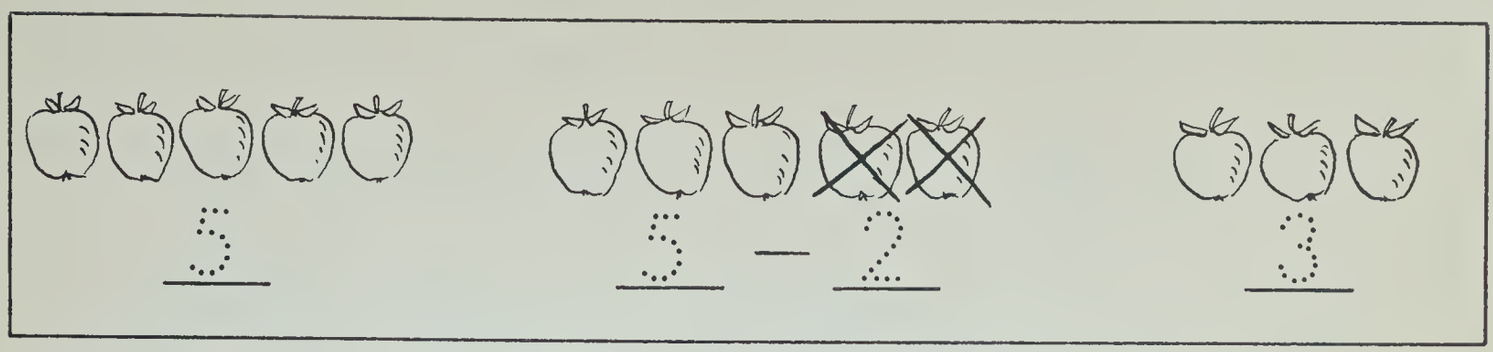
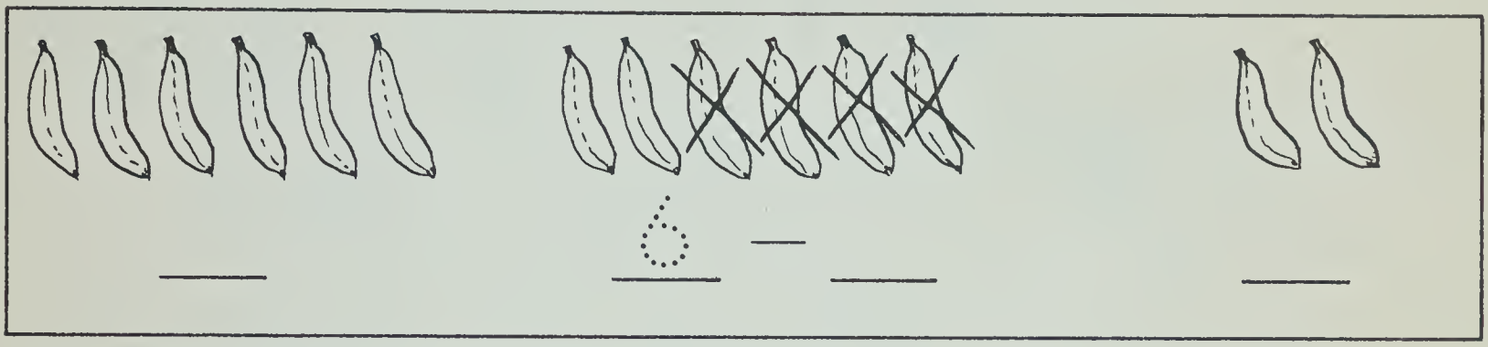
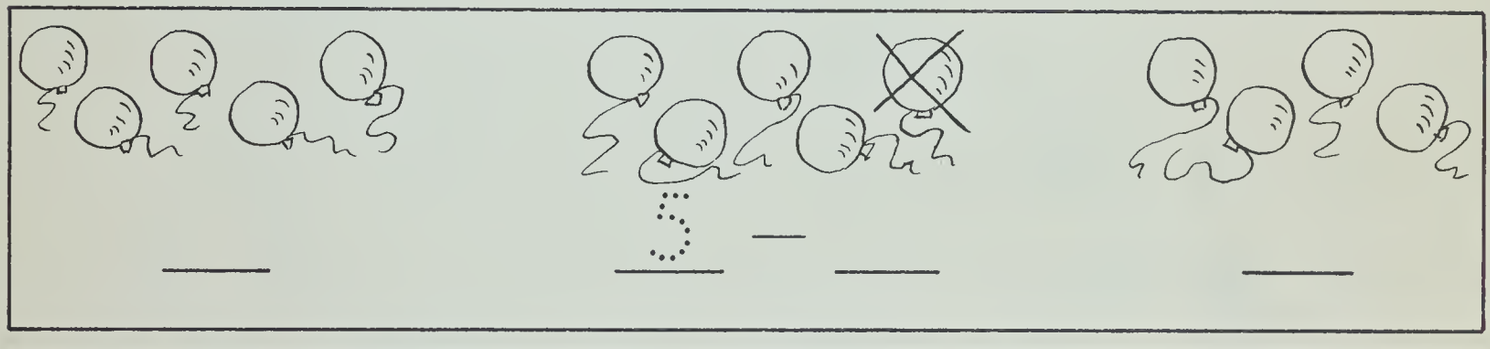
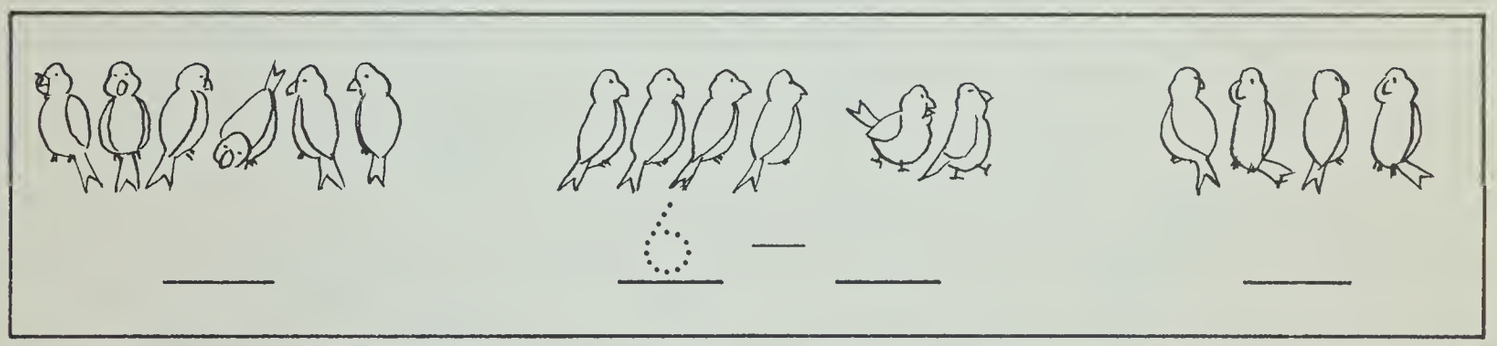
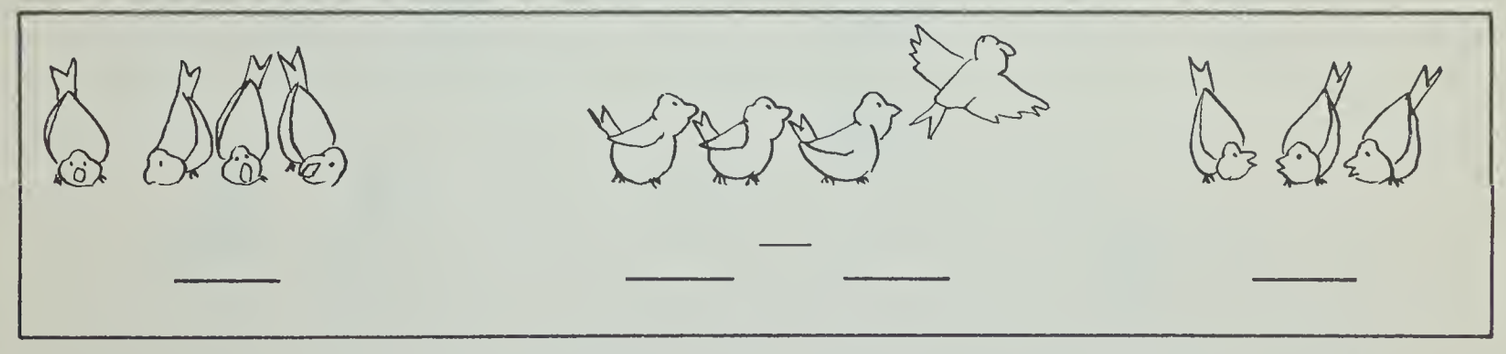
NAME











TEACHER NOTES: Discuss the starting set, the indicated subtraction, and the remaining subset. Emphasize the whole/part relationship involved. On page 22, students must determine how many are being subtracted and how many will be left.

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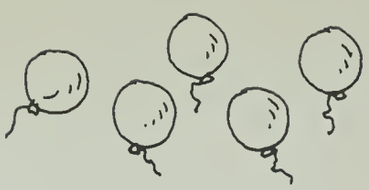
Write the numbers. Then match.

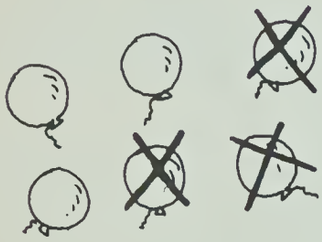
4 − 2 = ___



___

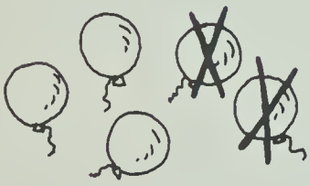
___ − 1 = ___

___



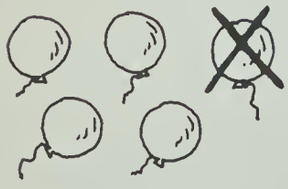
6 − ___ = ___

___



5 − ___ = ___

___



5 − ___ = ___

___

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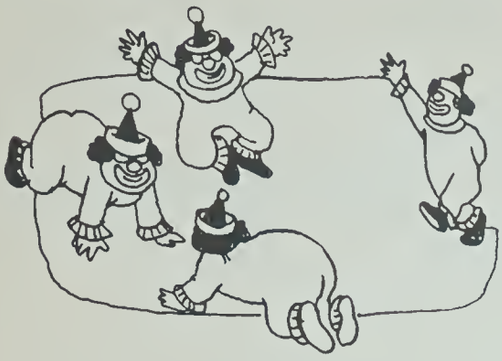
UNIT 6

NAME _____

Choosing the Example

Write the missing numbers. Match.

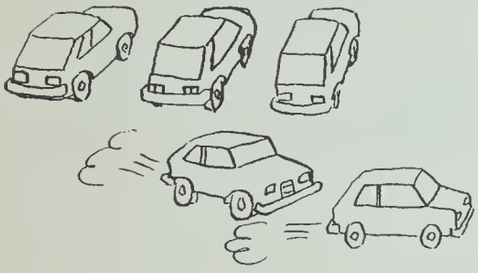


___

___ more

How many in all?

5
−2
___

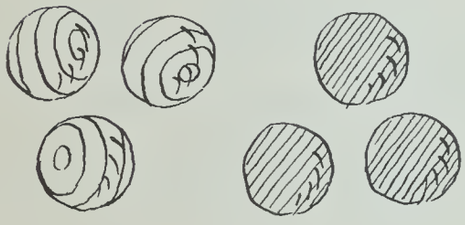


___

___ go away.

How many are left?

3
+2
___

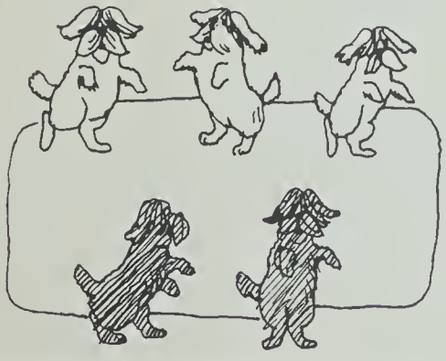


___

___

How many in all?

3
+1
___



___

___

How many in all?

3
+3
___

TEACHER NOTES: Discuss the pictures. Show the children how to write the numbers in the word problems from the information given in the pictures. After writing the numbers, the children are to match the picture and story to the problem-example and then solve the problem.

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Write the missing numbers.

___

___ more .

How many in all?

___

___ runs away.

How many are left?

___

___

How many in all?

___

___ fly away.

How many are left?

___

___

How many in all?

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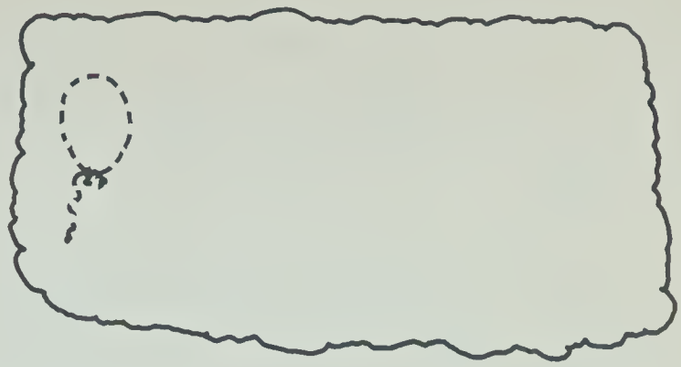
NAME _____

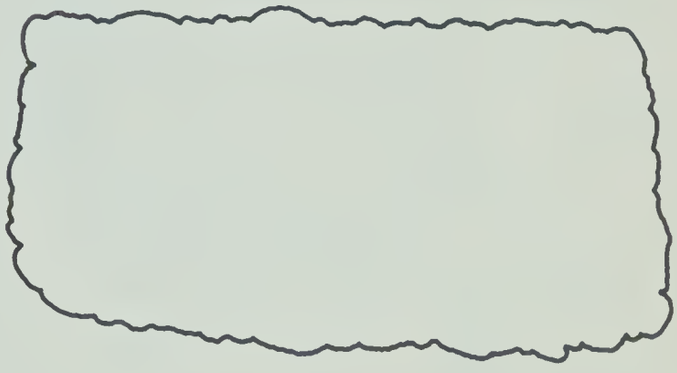
Draw the balloons. Write the missing numbers.

Draw 4 balloons.
Draw 2 more.
How many in all?



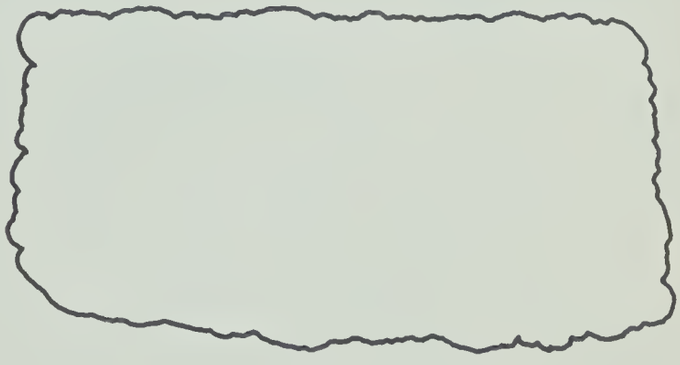
____
\+ ____
____

Draw 6 balloons.
X out 5.
How many are left?



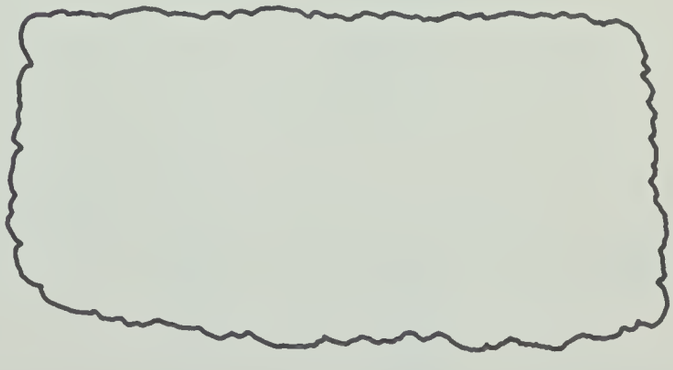
____
− ____
____

Draw 1 balloon.
Draw 4 more.
How many in all?



____
\+ ____
____

Draw 6 balloons.
X out 6.
How many are left?



____
− ____
____

TEACHER NOTES: In this lesson, the children are given practice in following directions and answering questions. The children write the numbers in the example boxes and then solve the problem. Sometimes it is helpful to draw a picture to help clarify the information provided.

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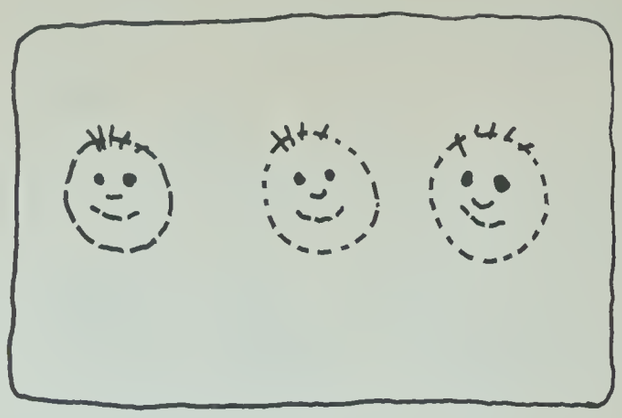
Draw the pictures. Write the missing numbers.

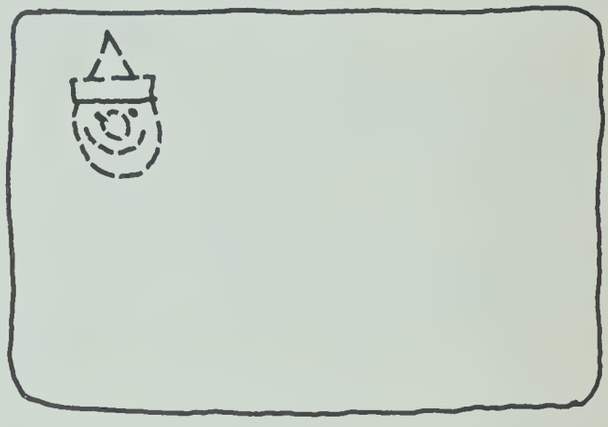
Draw 1 face.
Draw 2 more.
How many in all?

1
+ 2
3



Draw 4 clowns.
Draw 1 more.
How many in all?

____
□ ____
____

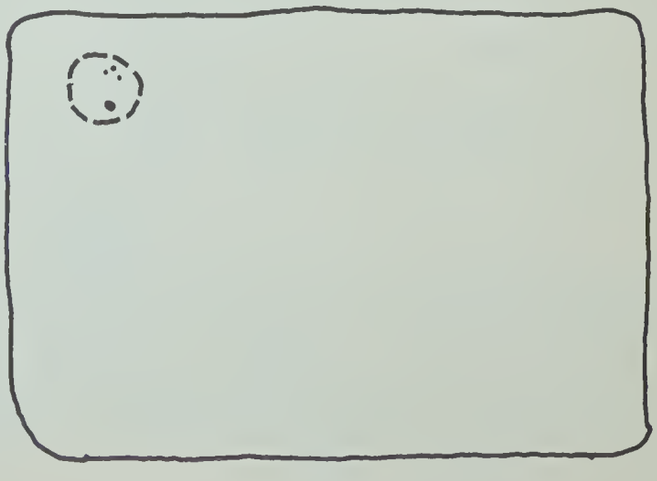


Draw 7 cups.
X out 5.
How many are left?

____
□ ____
____

Draw 8 oranges.
X out 4.
How many are left?

____
□ ____
____



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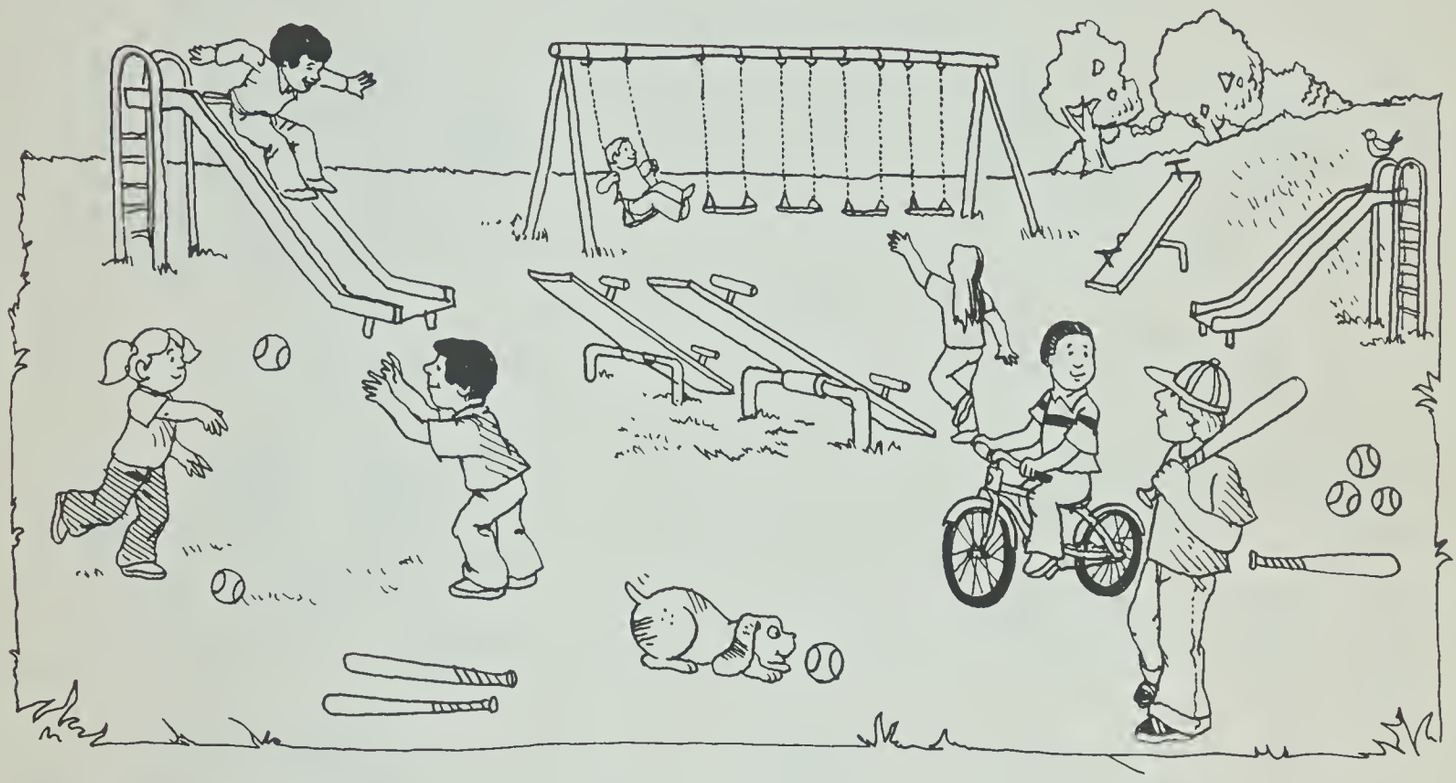
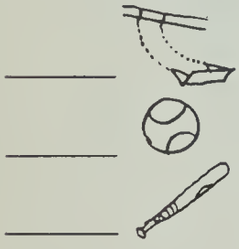
UNITS 1-6 NAME

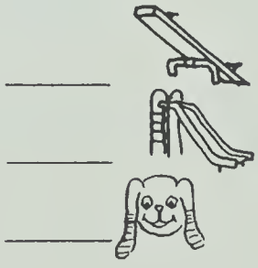
Review Problems

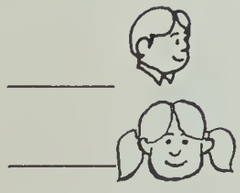
Classification | Information From a Picture | Picture Problem Sequence | Matching Pictures to Problems | Choosing the Example



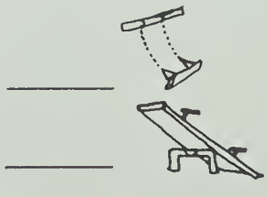
Write the number.







How many in all? ____ in all



How many in all? ____ in all

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Match.

6 − ____

____

3 + ____

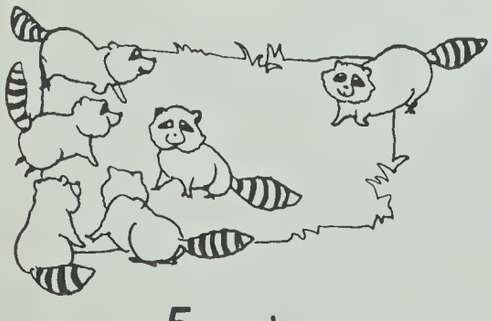
____

6 − ____

____

6 − ____

____



5 + ____

____

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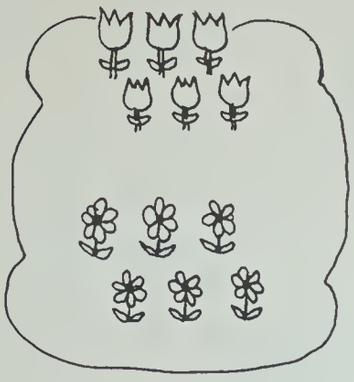
NAME _____

Write the numbers.



___

___

How many in all?

___

___

___

___

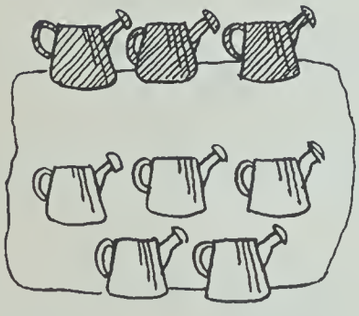
___ fly away.

How many are left?

___

___

___



___

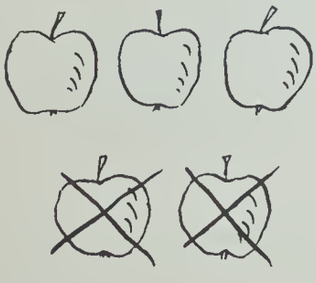
___

How many in all?

___

___

___



___

___

How many are left?

___

___

___

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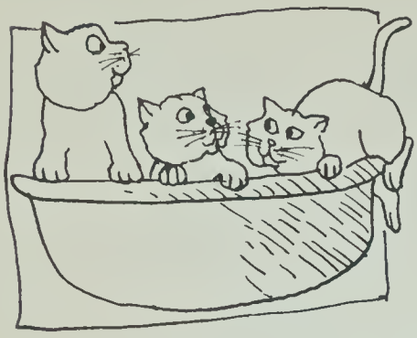
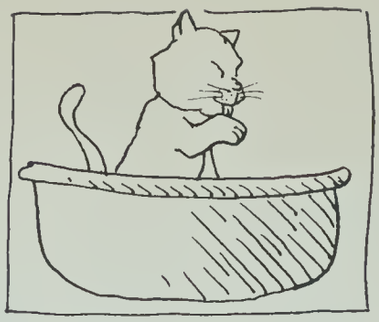
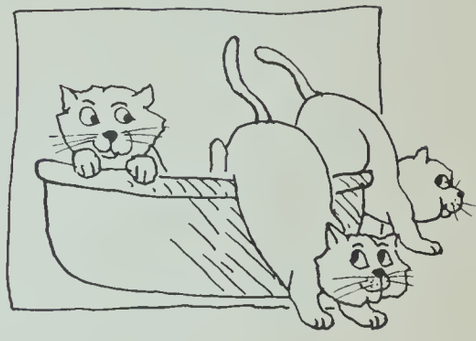
Order the pictures.







Draw 5 balloons.
Draw 3 more.
How many in all?

____
____
____

Draw 6 balloons.
X out 4.
How many are left?

____
____
____

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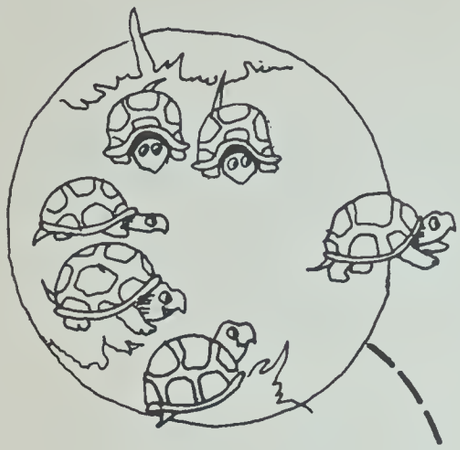
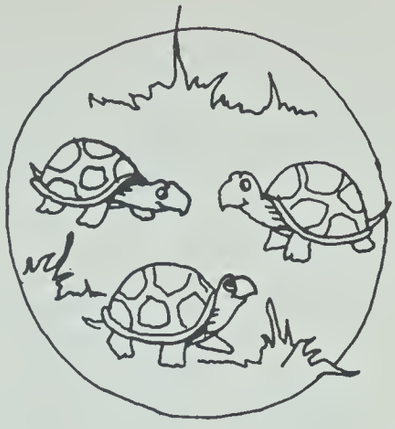
UNIT 7

NAME _____

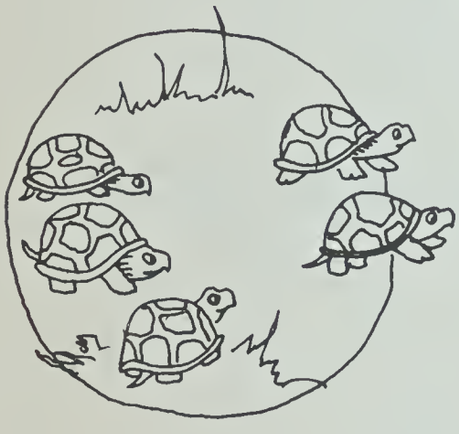
Pictures to Numbers

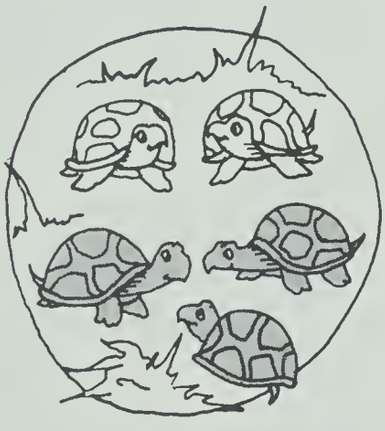
Match. Write the number.



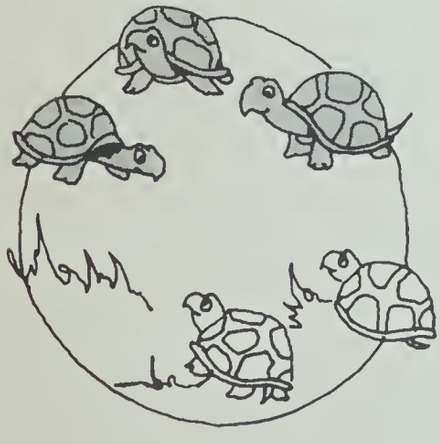


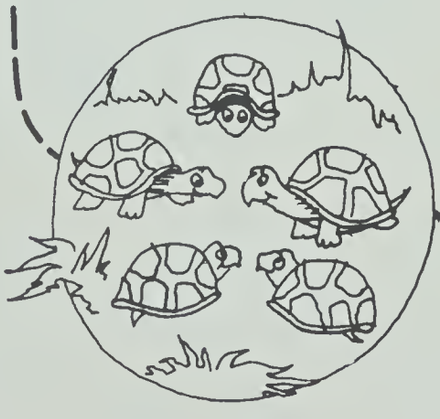
5 − 2 = ___





3 + 2 = ___





6 − 1 = ___

TEACHER NOTES: In this lesson, the children focus on the association of a story picture with an arithmetic example. The children should first draw a line to connect the story pictures and then draw a line to the example that tells the correct arithmetic story.

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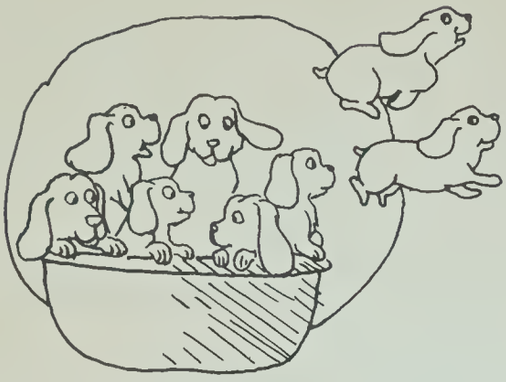
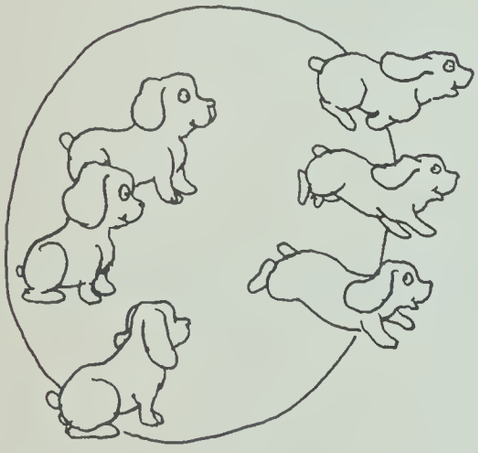
Match. Write the number.



4 + 3 = ___

6 − 3 = ___



8 − 2 = ___

3 + 1 = ___

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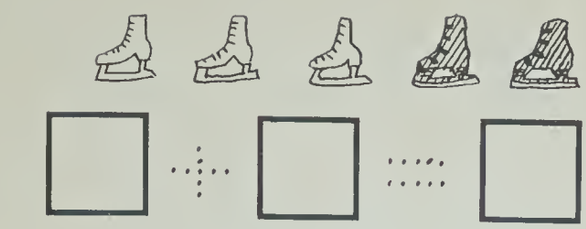
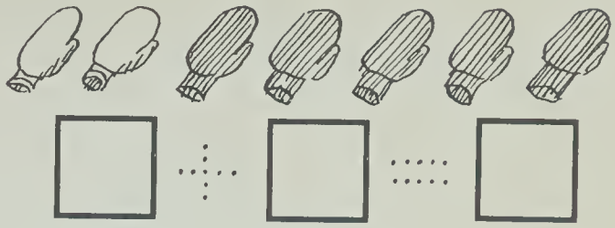
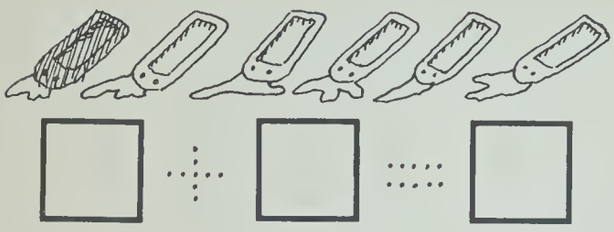
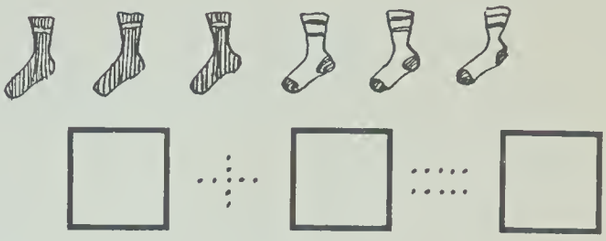
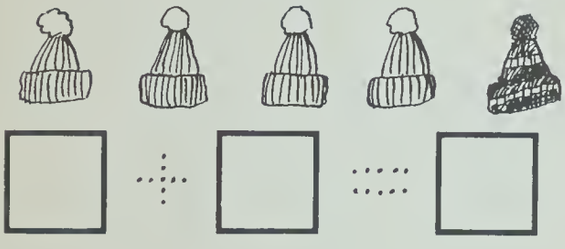
NAME

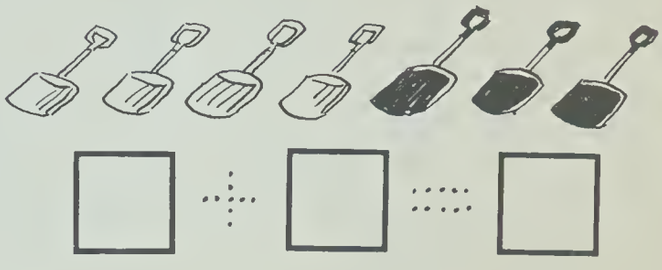


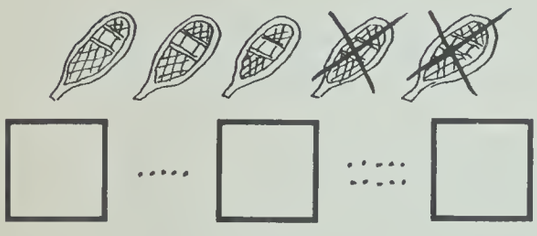


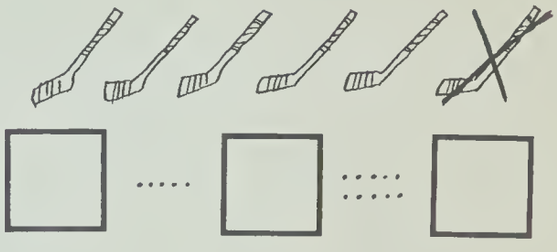


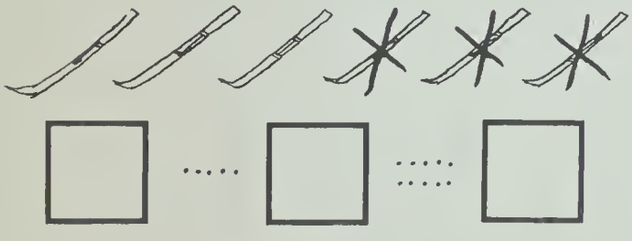


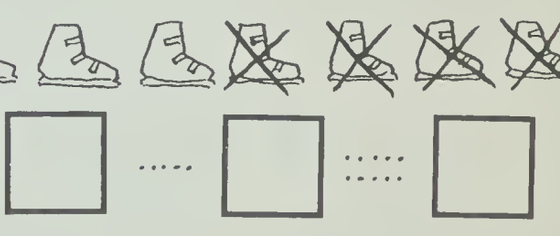


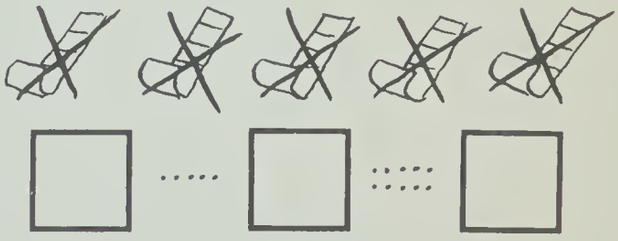


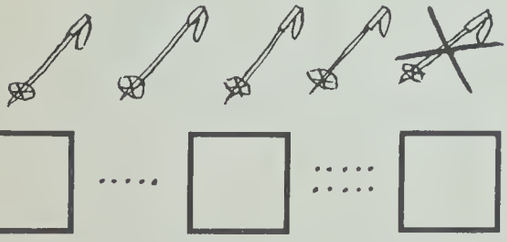












TEACHER NOTES: In these non-action set/subset examples, students interpret the pictures and record the numbers to correspond with each example. On page 34, students add on by drawing a subset or subtract by crossing out a subset.

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Draw to add.

3 + 2 = 5

□ in all

4 + 2 = □

□ in all

3 + 3 = □

□ in all

4 + 3 = □

□ in all

3 + 1 = □

□ in all

Cross out to subtract.

4 − 1 = □

□ are left.

5 − 3 = □

□ are left.

7 − 4 = □

□ are left.

6 − 2 = □

□ are left.

5 − 4 = □

□ is left.

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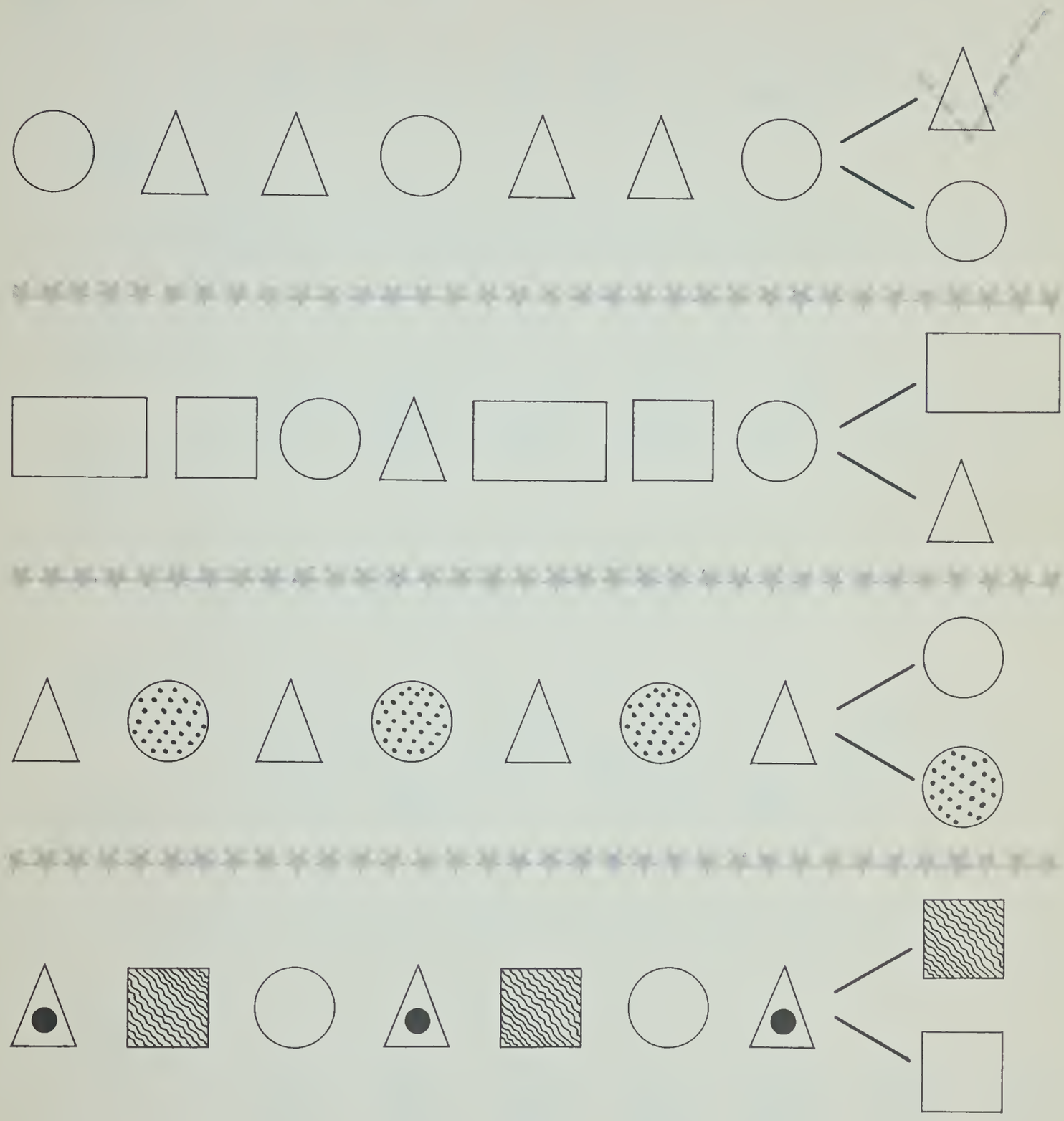
UNIT 8

NAME _____

Geometry Patterns

✔ the one that comes next.



TEACHER NOTES: Ask the children to explain the different designs and give a name to each figure in the pattern sequence. Have the children verbally repeat each pattern so that they hear the pattern sequence of names at the same time that they see the design sequence.

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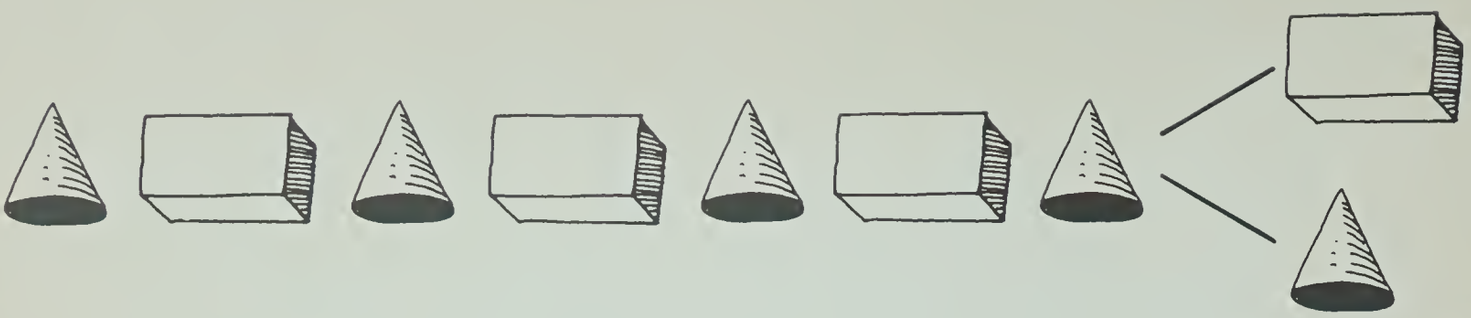
✓ the one that comes next.



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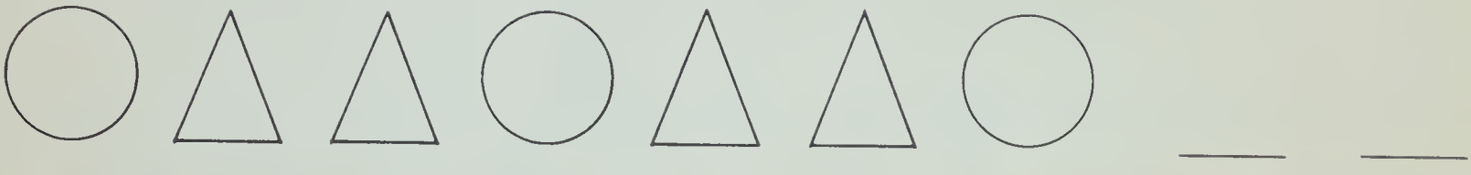
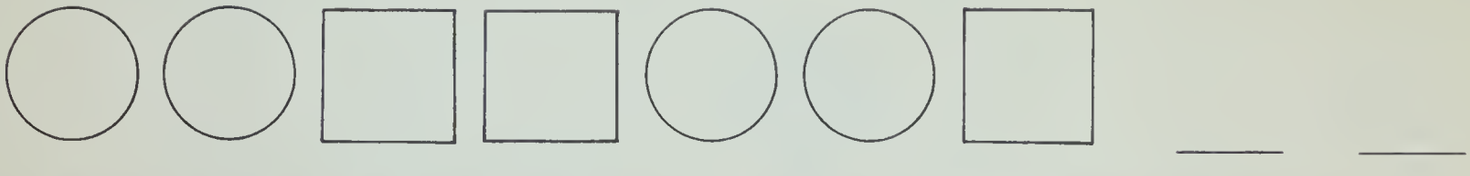
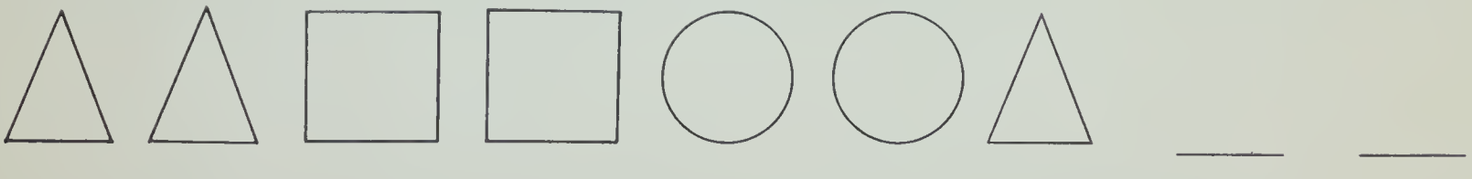
NAME _____

Draw the ones that come next.







TEACHER NOTES: In this lesson, the children are to draw the next figure in the pattern. Encourage the children to describe the figure in terms of shape and then, on the next page, in terms of shape and design.

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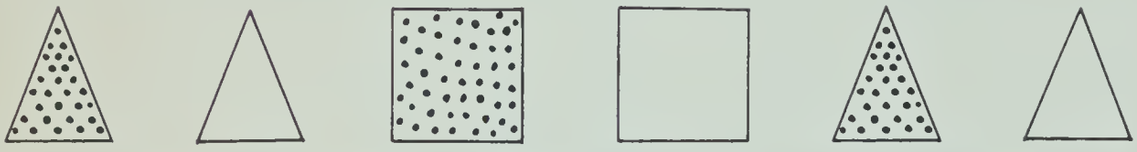
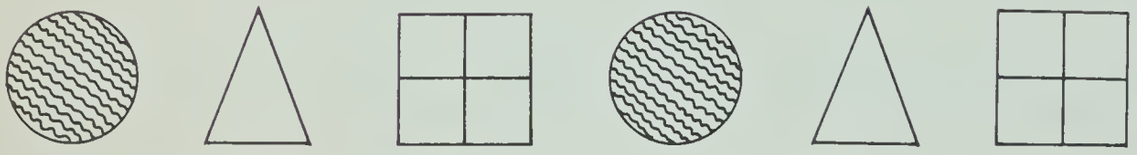
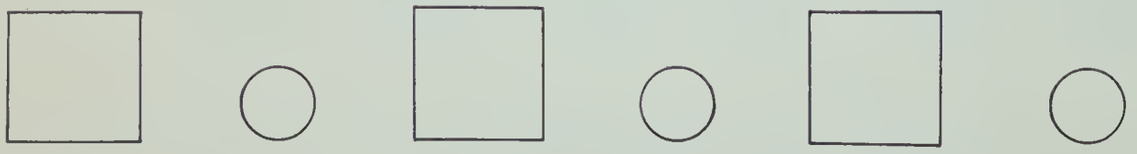
Draw the ones that come next.







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UNIT 9

NAME _____

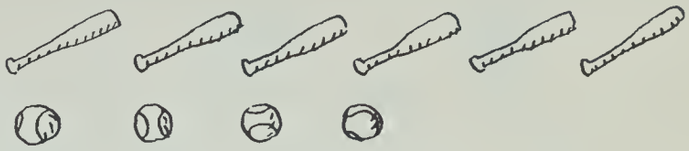
Organize and Compare Information

3

4

____ more than

4 − 3 = □



____

____

____ more than

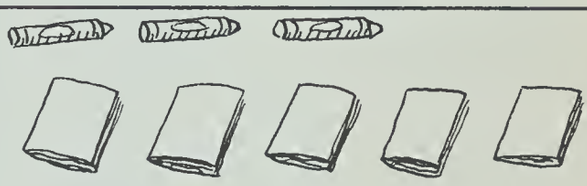
6 − 4 = □

____

____

____ more than

6 − 3 = □



____

____

____ more than

5 − 3 = □

____

____

____ more than

6 − 4 = □

____

____

____ more than

5 − 3 = □

TEACHER NOTES: Discuss the examples. Students match sets, record information, determine which has more and how many more. Subtraction examples are provided to show how to record a comparison situation. On page 40, students organize the information onto a graph, and then compare.

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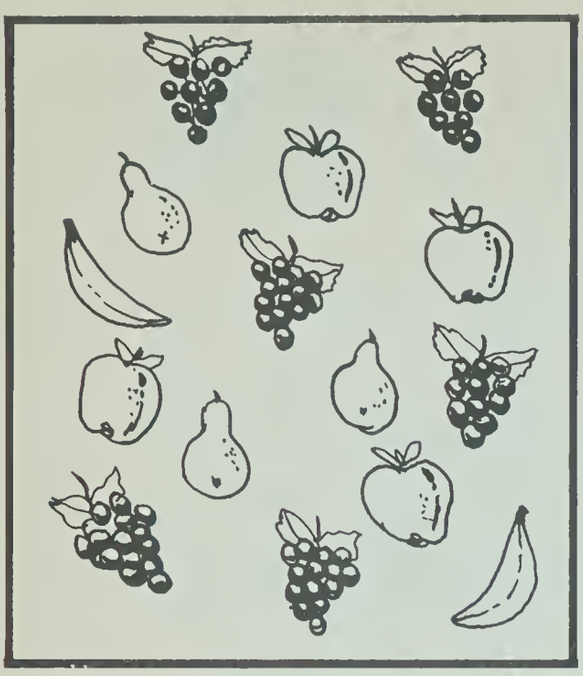
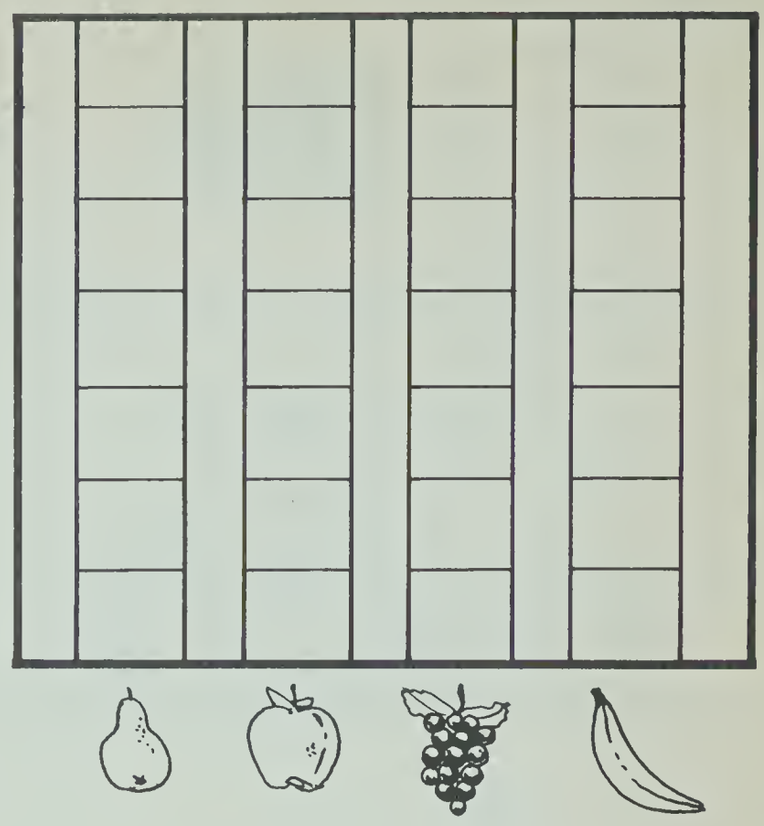
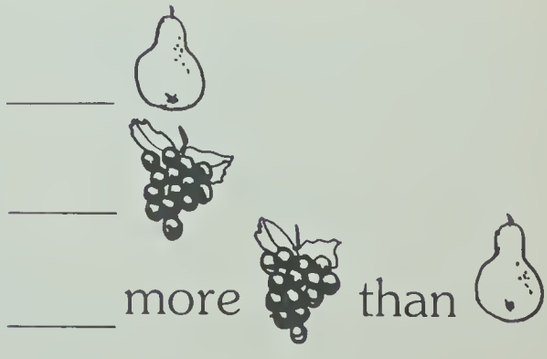
Shade a block for each object.







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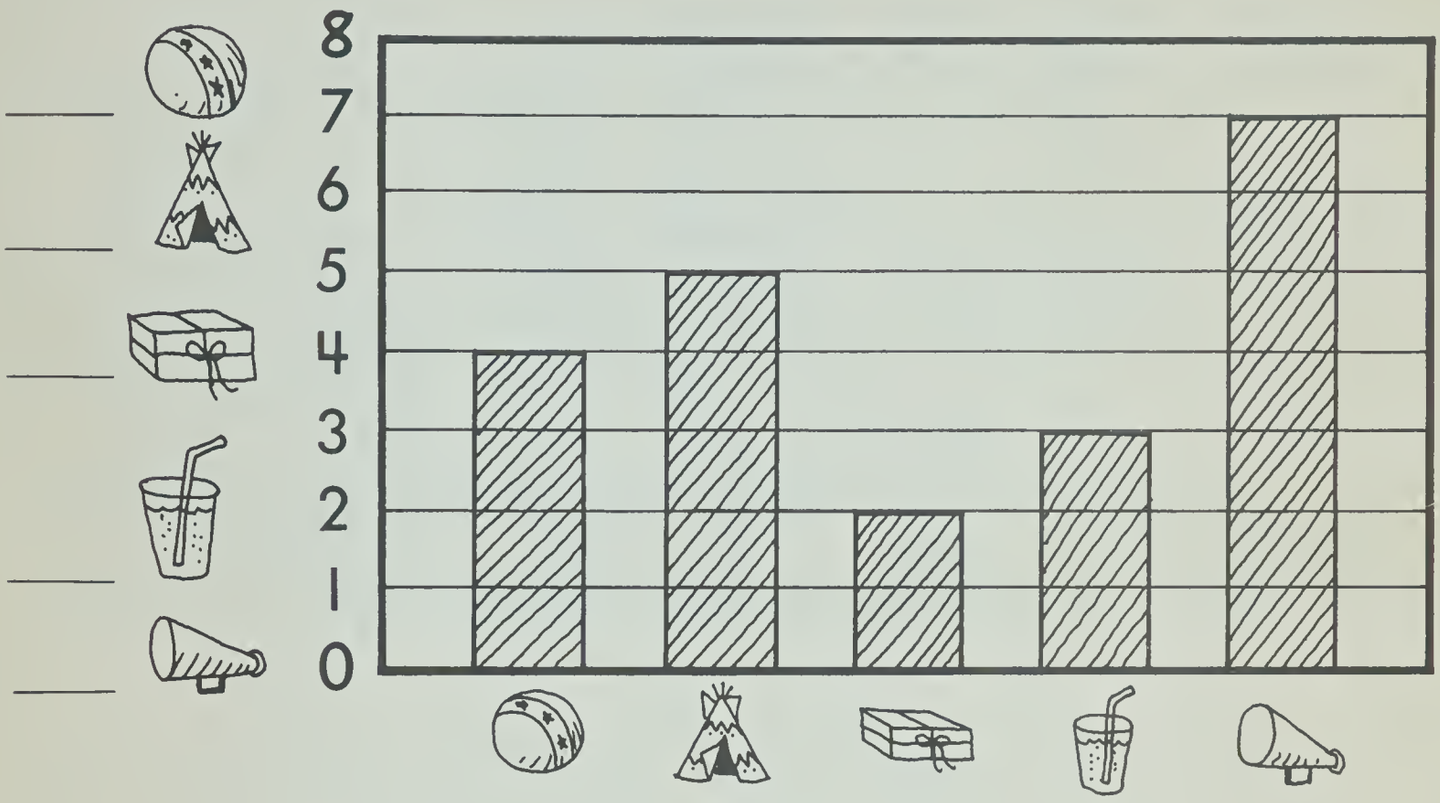
NAME _____

Write the number.



How many and in all? ____ and

How many and in all? ____ and

How many more than ? ____ more

How many more than ? ____ more

TEACHER NOTES: Discuss the graph. Tell the children to answer the questions about what is listed in the graph. The skill of reading and interpreting information from a graph or from any source is an important problem solving skill.

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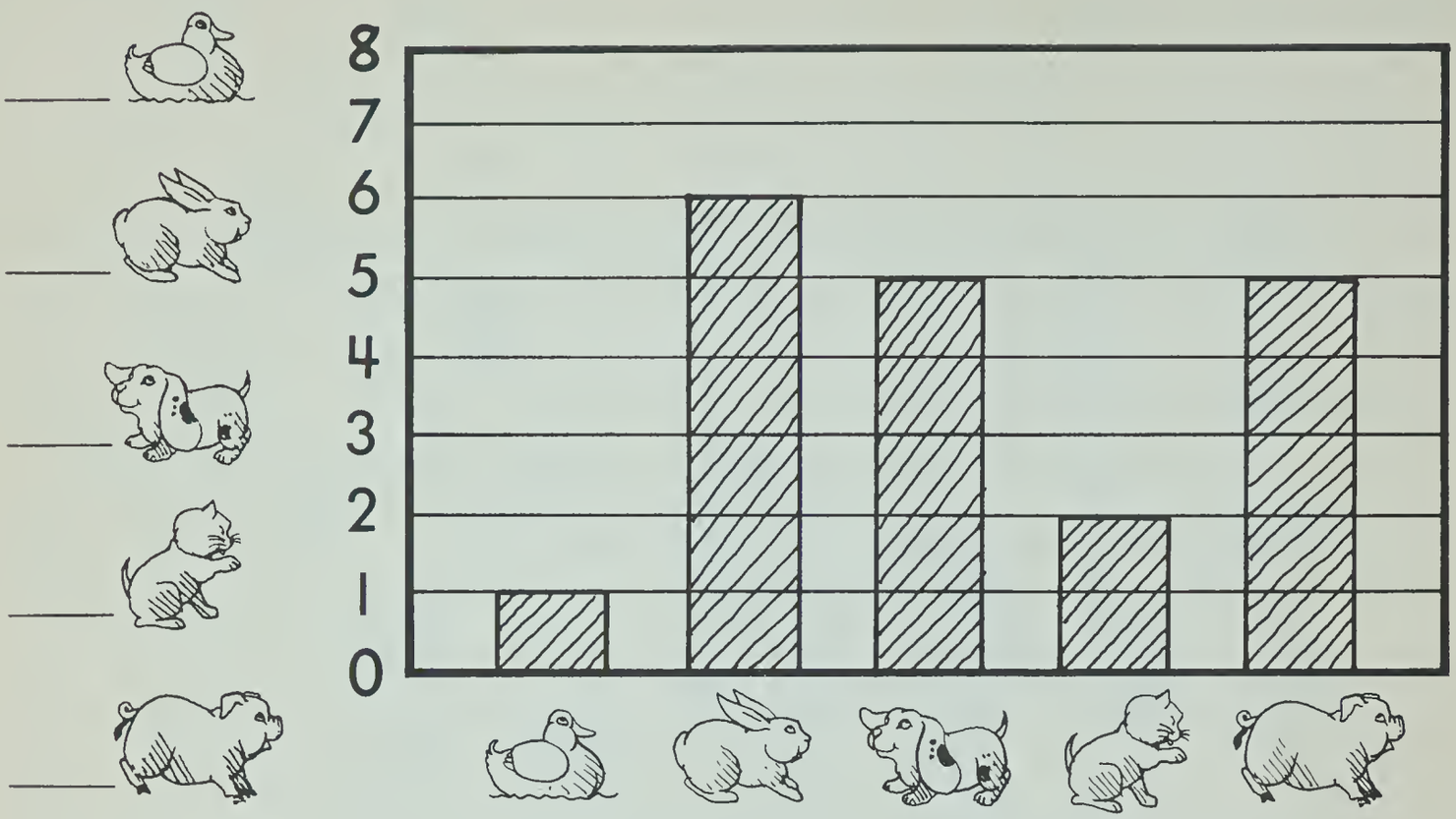
Write the number.



How many more than ? ____ more

How many and in all? ____ and

How many and in all? ____ and

How many more than ? ____ more

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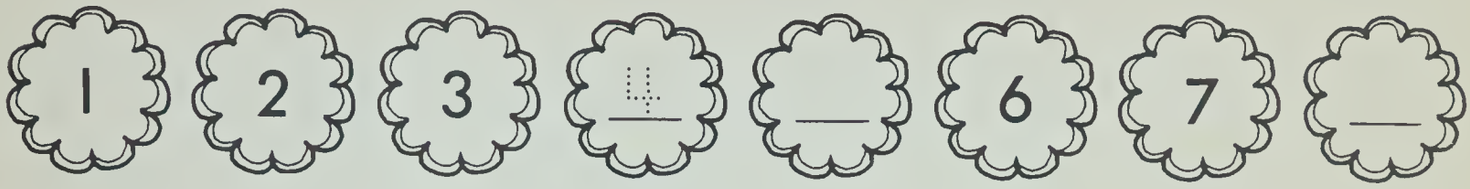
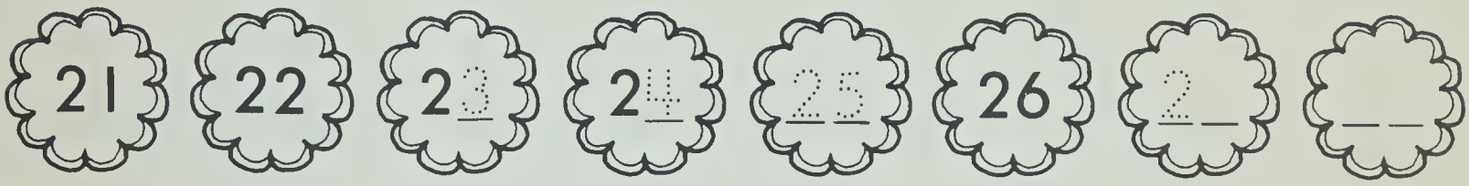
UNIT 10

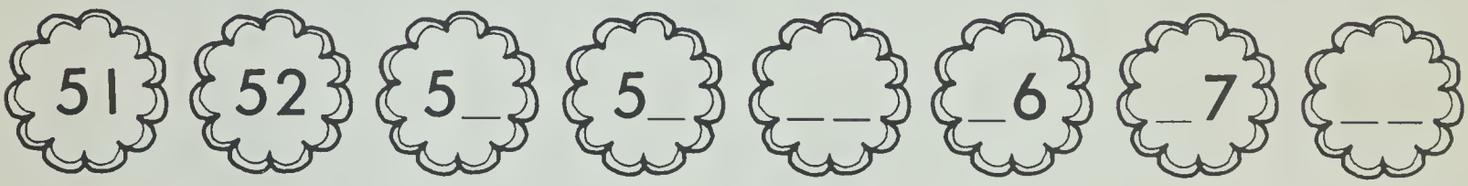
NAME _____

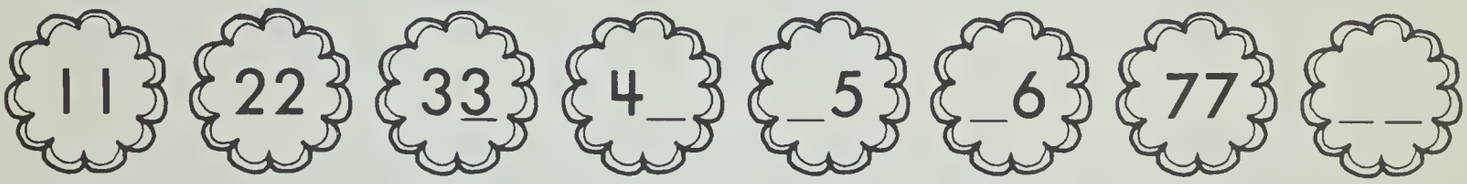
Number Patterns

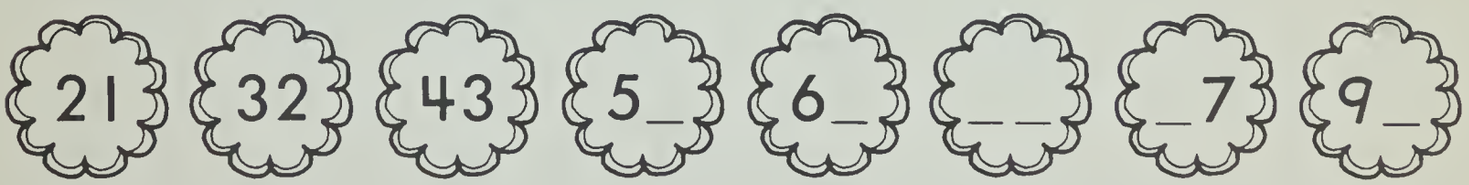
Finish the number patterns.











TEACHER NOTES: Double blanks are provided in the pattern sequence so children will see the pattern for each digit. This lesson provides readiness for patterns which result from adding or subtracting numbers.

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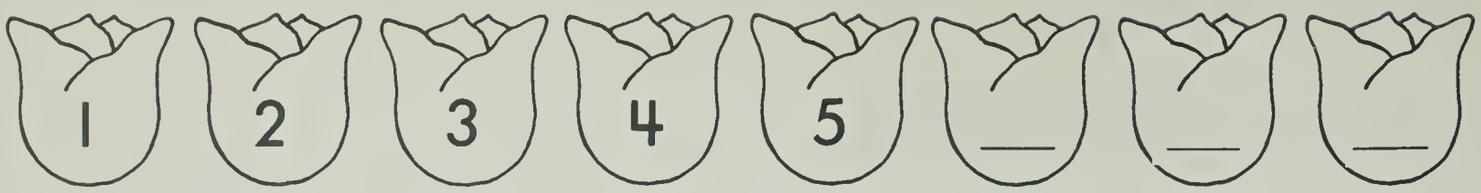
Finish the number patterns.



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0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49

Use the chart. Write the numbers.

The numbers with a 0

0 10 20 ____ ____

Add ____ to get the next number.

The numbers with 4 in the ones' place

____ ____ ____ ____ ____

Add ____ to get the next number.

The numbers with 2 in the tens' place

____ ____ ____ ____ ____ ____ ____ ____ ____ ____

Add ____ to get the next number.

TEACHER NOTES: Part of the hundred chart is used in this lesson to show the existence of patterns in the place value arrangement of numbers. After the children write the number patterns, ask them how to find the "next" number for a larger chart. The answer should give the response to the question "what number did you add?"

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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Use the calendar. Write the numbers.

Write all the Sunday numbers.

____ ____ ____ ____

Add ____ to get the next number.

Write all the Tuesday numbers.

____ ____ ____ ____ ____

Add ____ to get the next number.

Write all the Friday numbers.

____ ____ ____ ____

Add ____ to get the next number.

Write all the Monday numbers.

____ ____ ____ ____

Add ____ to get the next number.

Write your own pattern. _____

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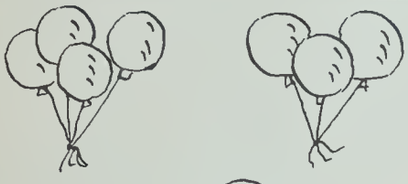
UNIT 11

NAME _____

Choosing the Operation

How many are left? 3 + or −



How many in all? ____ + or −

How many are left? ____ + or −

How many in all? ____ + or −

How many are left? ____ + or −

$$\begin{array}{r} 4 \\ +3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 5 \\ -2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 6 \\ -2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 6 \\ -3 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 4 \\ +2 \\ \hline 6 \end{array}$$

TEACHER NOTES: Discuss the illustrations. Emphasize the part/whole relationships. For addition, students identify the parts, then the whole or sum. For subtraction, students identify the whole, or starting set, then subtract a subset (implied action in these examples), and lastly identify the remaining subset. Students choose the operation then find the example to match.

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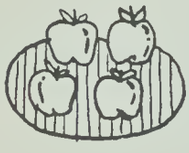
Choose + or −. Match the example.

How many in all? ____ + or −

7
−3

How many are left? ____ + or −

4
+4

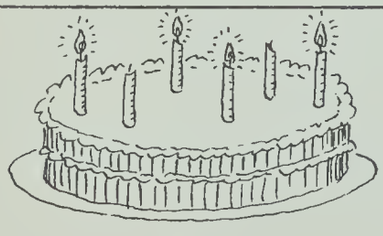


How many in all? ____ + or −

5
+2

How many now? ____ + or −

5
−2



How many are left? ____ + or −

6
−2

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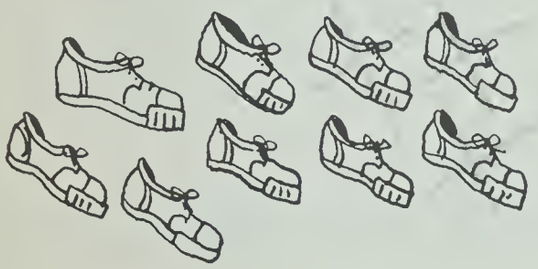
NAME

Write the letter to match the example. Write the answer.

M					
5 +4 9	8 −3 ___	3 +8 ___	5 −4 ___	9 −3 ___	9 +3 ___

D. ____ more than

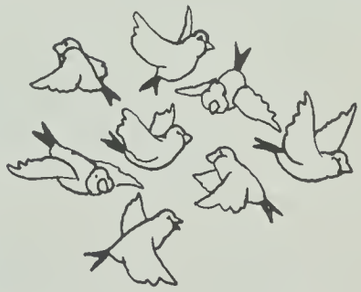
N. ____ and in all



A. ____ are left

M. ____ and in all

Y. ____ and in all



O. ____ more than

TEACHER NOTES: More examples for matching the arithmetic to a problem situation are provided in this lesson. The children must select the correct picture for each arithmetic example. On the second page, the children match the example to the picture.

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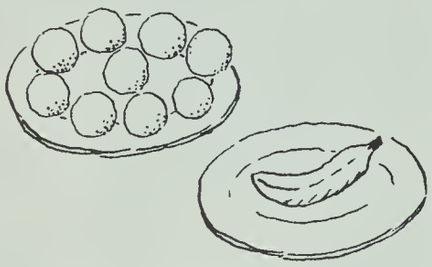
Write the letter to match the example.

6 red apples
6 green apples
____ apples in all

E

5 pennies
Spend 4 pennies
____ pennies are left



9 oranges
1 banana
____more oranges than bananas

6 apples
Eat 6 apples
____ apples are left

5 leaves
4 more leaves
____ leaves in all

9 large crayons
1 small crayon
____ crayons in all

A	B	C	D	E	F
6	9	5	9	6	5
−6	+1	−4	−1	+6	+4

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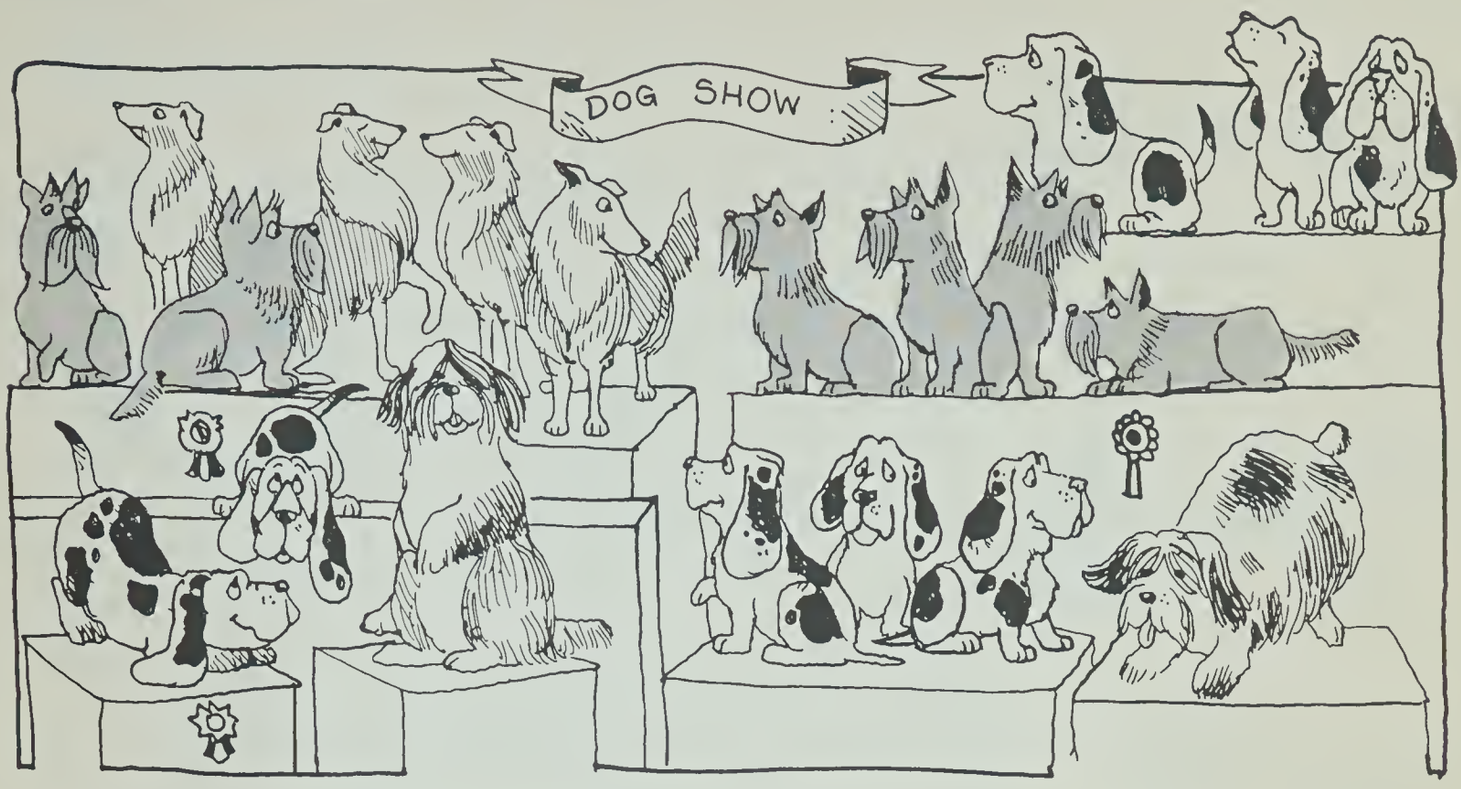
UNIT 12

NAME _____

Answer Labels



Match. Write the number.

How many and in all? ____

How many more than ? ____

How many and in all? ____

How many more than ? ____

TEACHER NOTES: Part of the process of problem solving is the correct identification of the information for the answer label. This lesson encourages children to focus on the information in the questions and match each question to the correct answer.

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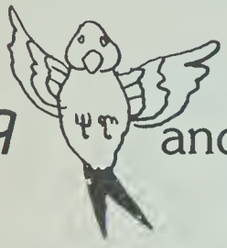
Draw a ——→ to the answer.

6 and 8

2 more

2 more

9  and 5

4 more

4 more

7 and 3

4 more

4 more

5 and 7

2 more

2 more

8 and 2

6 more

6 more

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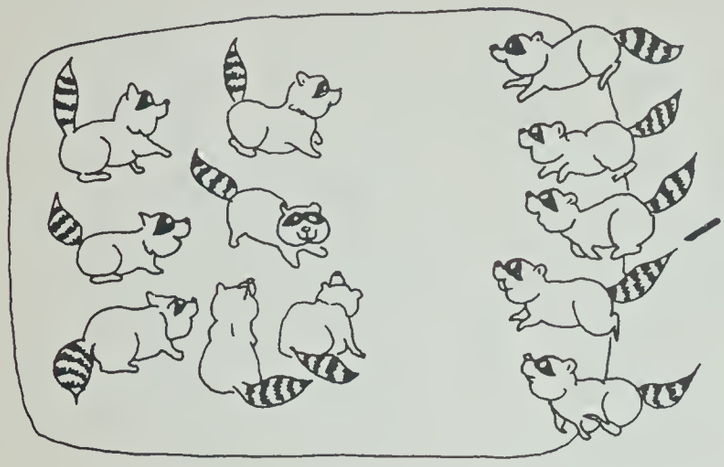
Match the story to the problem.

Match the answer to the label.

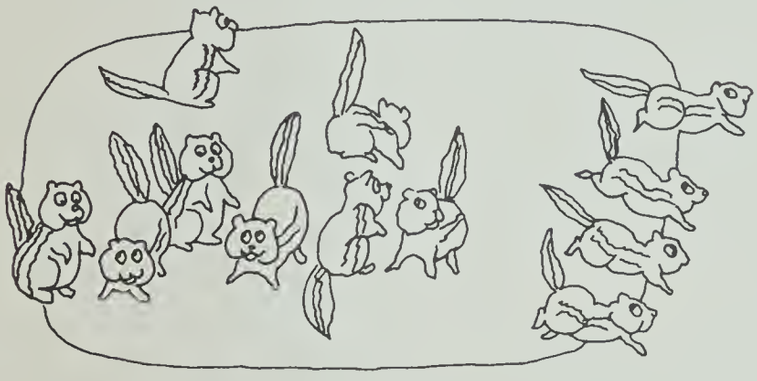


$$\begin{array}{r} 7 \\ +5 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 12 \\ +5 \\ \hline \end{array}$$

are left

in all

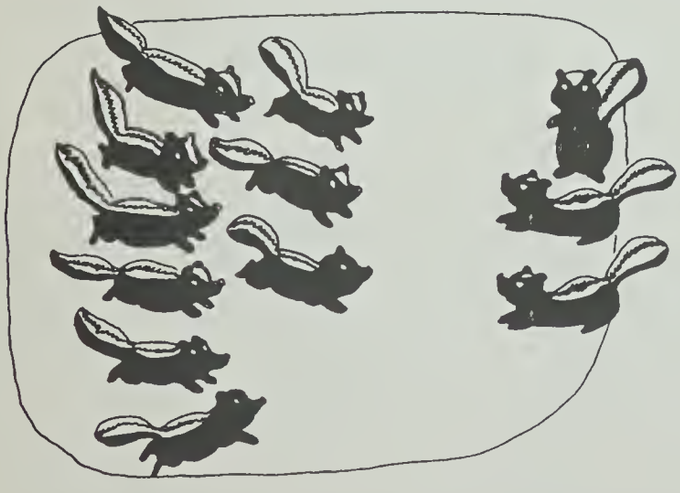


$$\begin{array}{r} 12 \\ -8 \\ \hline \end{array}$$

are left

$$\begin{array}{r} 12 \\ -4 \\ \hline \end{array}$$

in all



$$\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$$

are left

$$\begin{array}{r} 12 \\ +3 \\ \hline \end{array}$$

in all

TEACHER NOTES: In this lesson, the children are to solve only the arithemtic problem that matches the picture and then match the answer to the correct label. The label includes some clue words to help the identification match.

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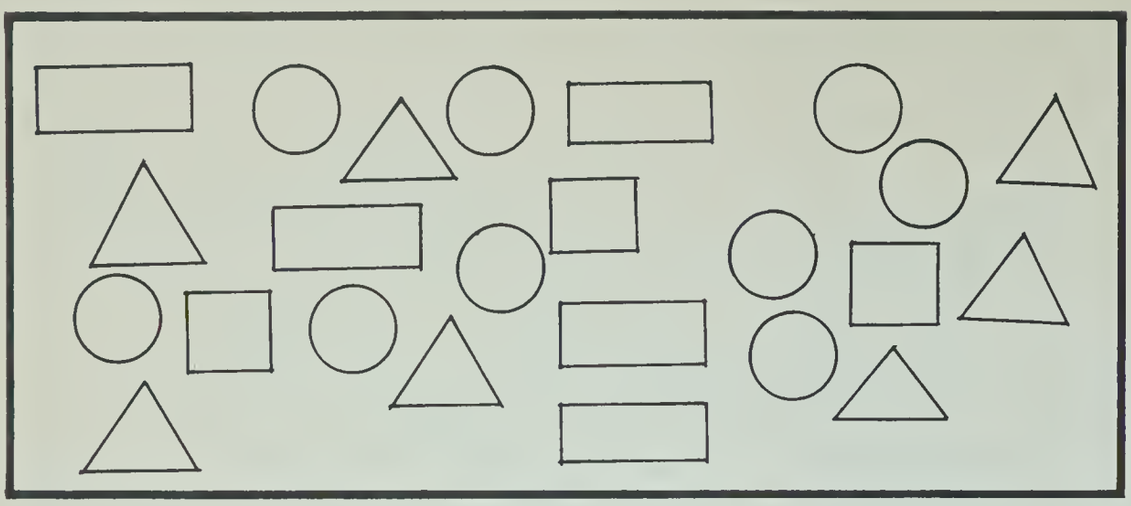
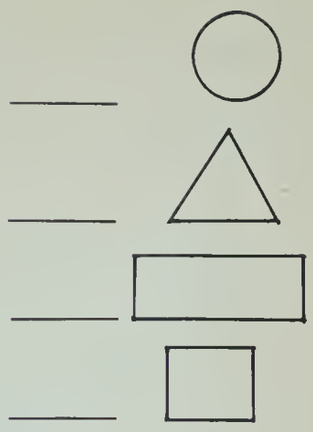
Write the number.





○ the example to answer the question.

Match the example to the answer label.

How many ○ and □?

9
+ 3
12

○ and △ in all.

9
+ 5

○ and □ in all.

How many more ○ than △?

9
+ 7

more ○

9
− 7

more △

How many more △ than ▭?

7
+ 5

more ▭

7
− 5

more △

How many △ and □?

7
+ 3

△ and □ in all.

7
− 5

more △

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UNITS 7-12 NAME _____

Review Problems

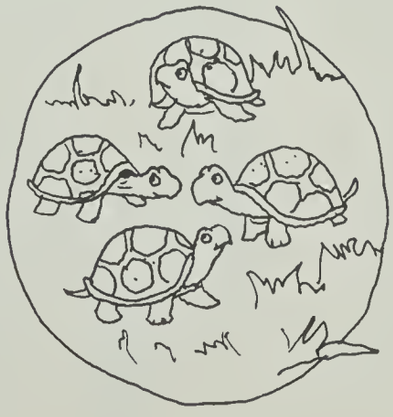
Pictures to Numbers
Geometry Patterns

Organizing Information
Number Patterns

Choosing the Operation
Answer Labels

7 − 3 = ____

3 + 2 = ____



5 − 1 = ____

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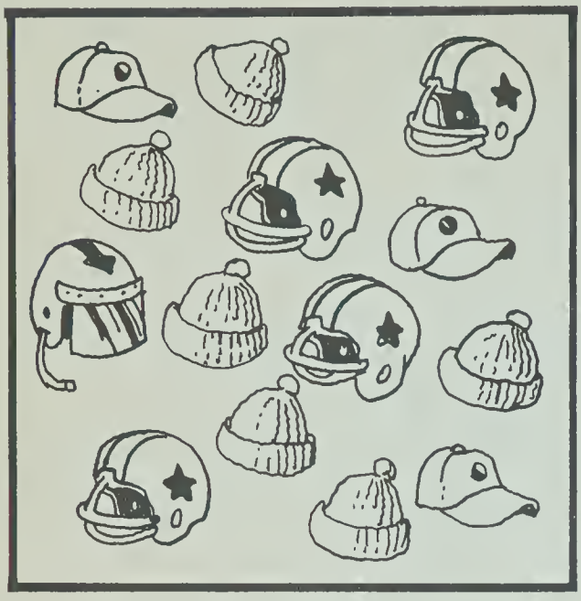
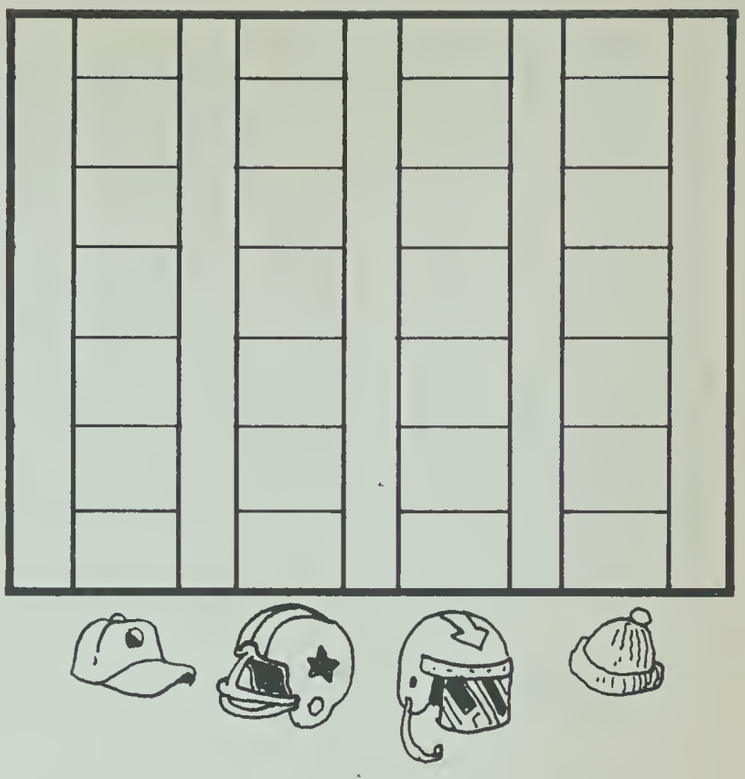
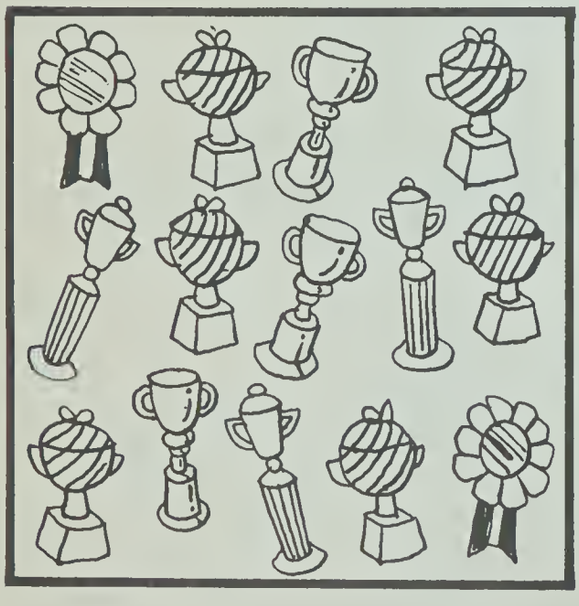
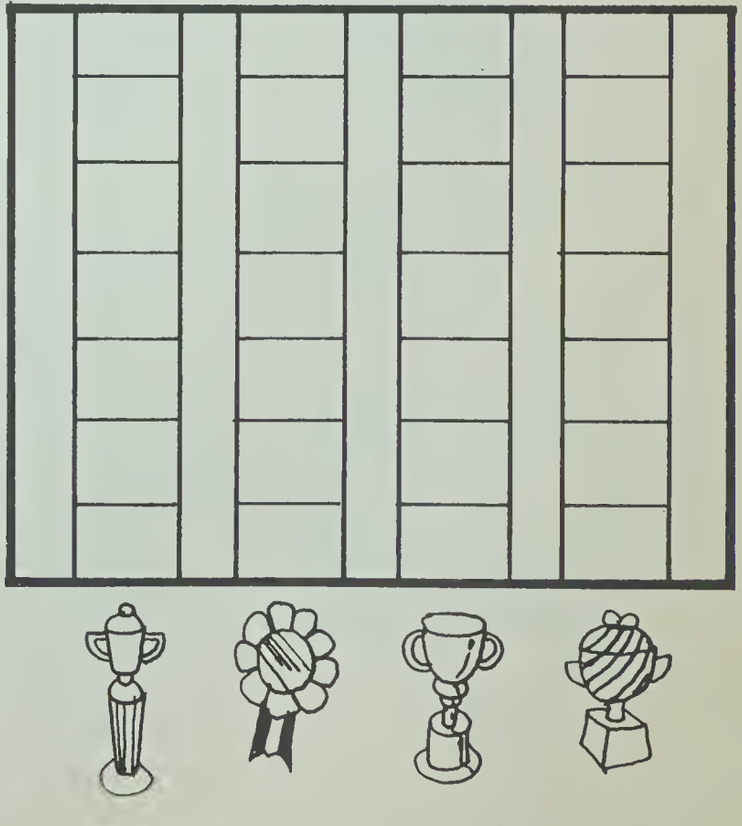
Shade a block for each object.









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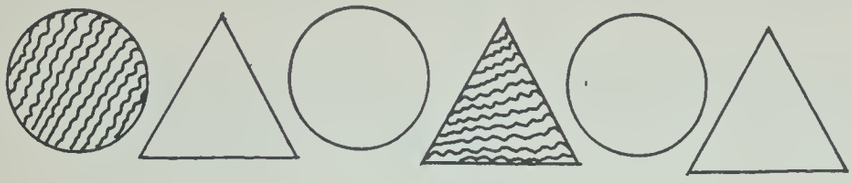
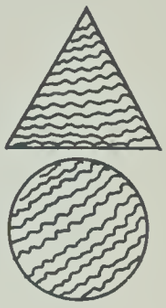
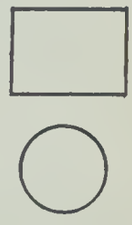
Draw a line to show the next one.







12 23 34 45 56 67

88

78

22 32 42 52 62 72

82

92

98 87 76 65 54 43

32

33

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Match the problem to the example.

How much in all?

50¢ + 40¢ = ____¢

50¢ − 40¢ = ____¢

Have

Eat

How many are left?

8 + 3 = ____

8 − 3 = ____

Have

Buy

more.

How many in all?

3 − 2 = ____

3 + 2 = ____

Draw your own problem.

Have

Buy

How many in all?

____ □ ____ = ____

____ □ ____ = ____

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ANSWERS

UNIT 1

Pages 3 and 4 Match pictures in left column to like pictures in right column.
Page 5 **Row 1:** doll; **Row 2:** puppy; **Row 3:** carrot; **Row 4:** hammer; **Row 5:** kitten
Page 6 **Row 1:** tiger; **Row 2:** chair; **Row 3:** book; **Row 4:** balloon; **Row 5:** toothbrush

UNIT 2

Page 7 In separate rows, paste 4 triangles, 3 circles, and 3 diamonds.
Page 9 In separate rows, paste 3 apples, 3 pears, 3 cherries, and 3 bananas.

UNIT 3

Page 11 2 birds, 4 frogs, 3 turtles, 8 fish, 5 dogs, 3 cats, 2 hamsters
Page 12 2 cats, 4 dogs, 3 trees, 5 flowers, 6 squirrels, 1 rabbit, 8 birds, 6 rocks
Page 13 4 cabbages, 7 apples, 3 celery, 4 bags, 9 oranges, 1 bottle, 4 carrots
Page 14 5 cups, 4 forks, 8 plates, 6 glasses, 3 spoons

UNIT 4

Pages 15 and 17 Paste pictures in the order of the stories.

UNIT 5

Page 19 **Row 1:** 3 + 2 = 5; **Row 2:** 2 + 1 = 3; **Row 3:** 4 + 2 = 6; **Row 4:** 1 + 3 = 4; **Row 5:** 3 + 3 = 6
Page 20 **Row 2:** 5 + 1 = 6; **Row 3:** 2 + 1 = 3; **Row 4:** 1 + 3 = 4; **Row 5:** 1 + 4 = 5
Page 21 **Row 1:** 5, 5 – 2, 3; **Row 2:** 6, 6 – 4, 2; **Row 3:** 5, 5 – 1, 4; **Row 4:** 6, 6 – 2, 4; **Row 5:** 4, 4 – 1, 3
Page 22 **Row 1:** 4 – 2 = 2; **Row 2:** 6 – 1 = 5; **Row 3:** 6 – 3 = 3; **Row 4:** 5 – 2 = 3; **Row 5:** 5 – 1 = 4

UNIT 6

Page 23 **Row 2:** 5 – 2 = 3; **Row 3:** 3 + 3 = 6; **Row 4:** 3 + 2 = 5
Page 24 **Row 1:** 4 + 1 = 5; **Row 2:** 4 – 1 = 1; **Row 3:** 3 + 2 = 5; **Row 4:** 7 – 2 = 5; **Row 5:** 3 + 1 = 4
Page 25 **Row 1:** 4 + 2 = 6; **Row 2:** 6 – 5 = 1; **Row 3:** 1 + 4 = 5; **Row 4:** 6 – 6 = 0
Page 26 **Row 2:** 4 + 1 = 5; **Row 3:** 7 – 5 = 2; **Row 4:** 8 – 4 = 4

UNITS 1-6

Page 27 **Row 1:** 5 swings, 3 seesaws; **Row 2:** 6 balls, 2 slides; **Row 3:** 4 bats, 1 dog;
Row 4: 5 boys, 2 girls, 7 in all; 5 swings, 3 seesaws, 8 in all
Page 28 **Row 1:** 6 – 2, 4; **Row 2:** 3 + 2, 5; **Row 3:** 6 – 3, 3; **Row 4:** 6 – 4, 2; **Row 5:** 5 + 1, 6
Page 29 **Row 1:** 6 + 3 = 9; **Row 2:** 8 – 7 = 1; **Row 3:** 3 + 5 = 8; **Row 4:** 5 – 2 = 3
Page 30 Order the pictures according to the story. **Row 1:** 5 + 3 = 8; **Row 2:** 6 – 4 = 2

UNIT 7

Page 31 **Row 1:** 6 – 1 = 5; **Row 2:** 5 – 2 = 3; **Row 3:** 3 + 2 = 5
Page 32 **Row 1:** 8 – 2 = 6; **Row 2:** 3 + 1 = 4; **Row 3:** 6 – 3 = 3; **Row 4:** 4 + 3 = 7
Page 33 **Row 1:** 3 + 2 = 5, 2 + 5 = 7; **Row 2:** 1 + 5 = 6, 3 + 3 = 6; **Row 3:** 4 + 1 = 5, 4 + 3 = 7;
Row 4: 5 – 2 = 3, 6 – 1 = 5; **Row 5:** 6 – 3 = 3, 7 – 4 = 3; **Row 6:** 5 – 1 = 4, 5 – 5 = 0
Page 34 **Row 1:** 5, 3; **Row 2:** 6, 2; **Row 3:** 6, 3; **Row 4:** 7, 4; **Row 5:** 4, 1

UNIT 8

Page 35 **Row 2:** triangle; **Row 3:** dotted circle; **Row 4:** shaded square

Page 36 **Row 1:** box; **Row 2:** pumpkin; **Row 3:** box with bow; **Row 4:** top can

Page 37 **Row 1:** triangle, circle; **Row 2:** triangle, triangle; **Row 3:** square, circle; **Row 4:** square, circle; **Row 5:** triangle, square

Page 38 **Row 1:** white circle, shaded circle; **Row 2:** dotted square, white square; **Row 3:** shaded circle, white triangle, **Row 4:** small dotted triangle, large dotted triangle; **Row 5:** large square, small circle

UNIT 9

Page 39 **Row 1:** 3, 4, 1, 4 – 3 = 1; 6, 4, 2, 6 – 4 = 2; **Row 2:** 6, 3, 3, 6 – 3 = 3; 3, 5, 2, 5 – 3 = 2; **Row 3:** 4, 6, 2, 6 – 4 = 2; 5, 3, 5 – 3 = 2

Page 40 **Top Graph:** 3 pears, 4 apples, 6 grapes, 2 bananas; **Row 1:** 6, 4, 2; 2, 3, 1; **Row 2:** 4, 2, 2; 3, 6, 3

Page 41 **Top Graph:** 4 balls, 5 teepees, 2 gifts, 3 sodas, 7 horns; **Row 1:** 7; **Row 2:** 11; **Row 3:** 1; **Row 4:** 4

Page 42 **Top Graph:** 1 duck, 6 rabbits, 5 digs, 2 cats, 5 pigs; **Row 1:** 5; **Row 2:** 8; **Row 3:** 10; **Row 4:** 3

UNIT 10

Page 43 **Row 1:** 1, 2, 3, **4, 5,** 6, 7, **8**; **Row 2:** 21, 22, **23, 24, 25,** 26, **27, 28**; **Row 3:** 51, 52, **53, 54, 55, 56, 57, 58**; **Row 4:** 11, 22, 33, **44, 55, 66,** 77, **88**; **Row 5:** 12, 23, 34, **45, 56,** 67, **78, 89**; **Row 6:** 21, 32, 43, **54, 65, 76, 87, 98**

Page 44 **Row 1:** 1, 2, 3, 4, 5, **6, 7, 8**; **Row 2:** 13, 23, 33, **43, 53, 63, 73,** 83; **Row 3:** 22, 32, 42, **52, 62, 72, 82, 92**; **Row 4:** 93, 83, 73, **63, 53, 43, 33, 23**; **Row 5:** 98, 87, 76, **65, 54, 43, 32, 21**; **Row 6:** 10, 21, 32, **43, 54,** 65, **76, 87**; **Row 7:** 12, 23, **34,** 45, **56, 67, 78, 89**

Page 45 **Row 1:** 0, 10, 20, 30, 40, Add 10; **Row 2:** 4, 14, 24, 34, 44, Add 10; **Row 3:** 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, Add 1

Page 46 **Row 1:** 6, 13, 20, 27, Add 7; **Row 2:** 1, 8, 15, 22, 29, Add 7; **Row 3:** 4, 11, 18, 25, Add 7; **Row 4:** 7, 14, 21, 28, Add 8; **Row 5:** Answers may vary, probably using a single number in an addition pattern.

UNIT 11

Page 47 **Row 1:** +, 5 – 2 = 3; **Row 2:** +, 4 + 3 = 7; **Row 3:** –, 6 – 3 = 3; **Row 4:** +, 4 + 2 = 6; **Row 5:** –, 6 – 2 = 4

Page 48 **Row 1:** +, 5 + 2 = 7; **Row 2:** –, 5 – 2 = 3; **Row 3:** +, 4 + 4 = 8; **Row 4:** –, 7 – 3 = 4; **Row 5:** –, 6 – 2 = 4

Page 49 **Row 1:** M, 9; O, 5; N, 11; D, 1; A, 6; Y, 12; **Row 2:** 1, 11; **Row 3:** 6, 9; **Row 4:** 12, 5

Page 50 **Row 1:** 12, E; 1, C; **Row 2:** 8, D; 0, A; **Row 3:** 9, F; 10, B; **Row 4:** 0, 10, 1, 8, 12, 9

UNIT 12

Page 51 **Row 2:** match to 2 scots; **Row 3:** match to 10 hounds and sheep dogs; **Row 4:** match to 6 hounds

Page 52 **Row 1:** match to 2 more wreaths; **Row 2:** match to 4 more birds; **Row 3:** match to 4 more birdhouses; **Row 4:** match to 2 more poodles; **Row 5:** match to 6 more bats

Page 53 **Row 1:** 7 + 5 = 12 in all; **Row 2:** 12 – 4 = 8 left; **Row 3:** 3 + 9 = 12 in all

Page 54 **Top:** 9 circles, 7 triangles, 5 rectangles, 3 squares; **Row 1:** 9 + 3 = 12 circles and squares in all; 9 – 7 = 2 more circles; **Row 2:** 7 – 5 = 2 more triangles; 7 + 3 = 10 triangles and squares in all

UNITS 7-12

Page 55 **Row 1:** 3 + 2 = 5; **Row 2:** 5 – 1 = 4; **Row 3:** 7 – 3 = 4

Page 56 **Top Graph:** 3 baseball caps, 4 football helmets, 1 bike helmet, 6 ski caps; **Bottom Graph:** 3 column awards, 2 ribbons, 3 cup awards; 6 striped cup awards

Page 57 **Row 1:** shaded circle; **Row 2:** circle; **Row 3:** 78; **Row 4:** 82; **Row 5:** 32

Page 58 **Row 1:** 50¢ + 40¢ = 90¢; **Row 2:** 8 – 3 = 5; **Row 3:** 3 + 2 = 5; **Row 4:** answers vary

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